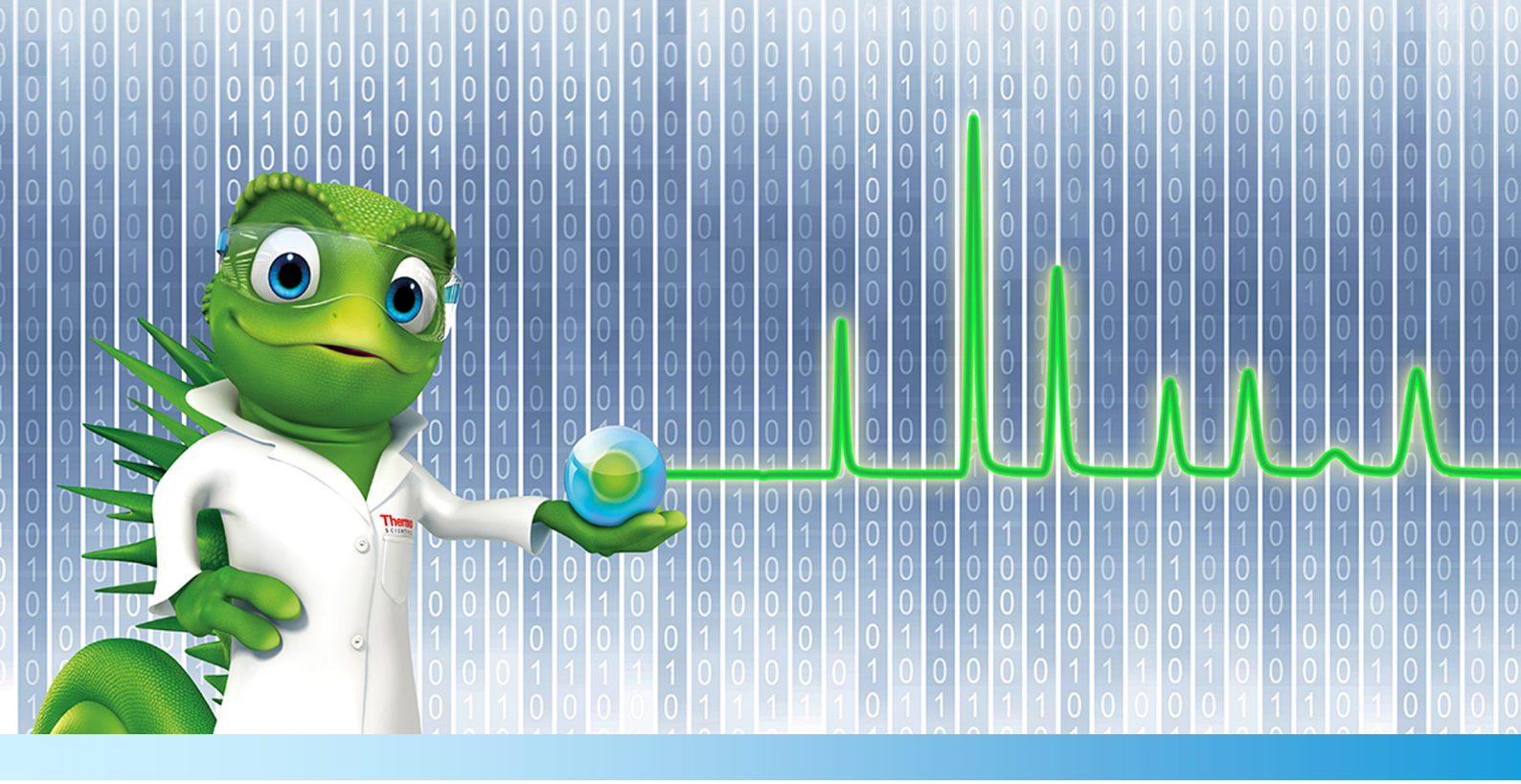

# Release Notes

## Chromeleon 7
## Chromatography Data System

Software Version 7.2.10 • May 2019

# Table of Contents

# 1 Introduction

The Thermo Scientific™ Chromeleon™ 7 Chromatography Data System (CDS) is a new-generation chromatography data system that provides the fastest path from samples to results. Building upon market-leading innovations of prior Chromeleon software releases – such as dynamic interactive data displays, an integrated database for rapid data retrieval, and spreadsheet-based reporting – Chromeleon 7 features a modern user interface, comprehensive new tools for peak detection, and an innovative workflow management framework, all of which speed up learning, simplify operation, and deliver results with greater efficiency than any other chromatography data system.

This new version, Chromeleon 7.2.10 CDS, provides updated and new instrument control for instruments from Thermo Fisher Scientific. Improvements and enhancements have been made in a number of areas related to ease of use, data processing and visualization. Please see below for more details on these and other enhancements present in this release.

The software is developed using modern software development tools and technologies that improve performance, sustainability and extendibility.

Backward compatibility with Chromeleon 6 is maintained to the greatest practicable extent, to provide an easy migration path.

# 2 Other Documentation

Chromeleon is provided with many other documents that will help you to learn more about the software. These documents can also be found in electronic form on the installation disk in the Documents folder.

Please refer to the Installation Guide for information regarding:

- System Requirements
- Supported Operating Systems and Databases
- Required Third-Party Software
- Compatibility with Previous Versions
- Installing and configuring the Chromeleon software

# 3 What's New in Chromeleon 7.2.10

Chromeleon 7.2.10 implements a number of new features, including support for LCMS Bioanalysis workflows, improvements to NTMS and Intact Protein workflows and various enhancements to compliance functionality, data review and Enterprise administration. For more details, refer to the Online Help.

## 3.1 New and Updated Thermo Scientific Instrument Drivers

This chapter lists new and updated Thermo Scientific™ drivers added to Chromeleon 7.2.10. For details on supported options, required licenses, installation, and control, refer to the Online Help or the List of Supported Instruments document found on the Chromeleon 7.2.10 DVD.

### 3.1.1 Thermo Scientific TriPlus 500 Headspace Sampler – New Driver (28057)

This release includes support for the new Thermo Scientific TriPlus 500 robotic arm headspace sampler.

### 3.1.2 Thermo Scientific Aquion RFIC – New Driver (34795)

This release introduces support for the new Thermo Scientific Aquion RFIC, which is similar to the original Aquion, but includes the following additional functionality:

- EGC support
- CR-TC support
- One-step gradient runs

This instrument will only be offered in select regions.

### 3.1.3 Thermo Scientific ISQ-EM – Updated Driver (35409)

This release enhances the 'Easy Mode' instrument method editor for the ISQ-EM LC/IC MS to support settings for the optional APCI source.

### 3.1.4 Thermo Scientific Fraction Collector Cooled Version – Updated Driver (26527)

This release includes support for the new cooled version of the Thermo Scientific Fraction Collector as well as for 5 new rack types. Minimum firmware version to use these new rack types is 1.11.

### 3.1.5 Vanquish Autosampler – Updated Driver [26230, 26111]

This release introduces a new property ("nominal loop volume") for the Vanquish Autosampler, which is used to check for the maximum possible injection volume in the Ready Check.

The needle height can now be set separately for each injection unit in a dual Vanquish autosampler (VH-40A-A, VF-40A-A). This new feature requires firmware version 1.23. For a method created using an earlier version of Chromeleon and without the NeedleHeight property set, the Ready Check issues a warning indicating that the NeedleHeight property needs to be set. If the NeedleHeight property for the method is not set and the current value of the NeedleHeight for the injection unit is set to default (Safe), the Ready Check does not issue a warning.

### 3.1.6 Thermo Scientific TRACE 1300 GC – Updated Driver [34690]

With this release, the TRACE 1300 GC driver has been updated as follows:

- A new "Flexible Dual Control" feature is now available which increases the flexibility of using dual-inlet GCs in Chromeleon. Once configured for a dual-inlet GC, sequences can be started in one of three modes; Front-inlet-only, Back-inlet-only, or Both-inlets-simultaneously, without requiring any further instrument configuration. This functionality may be enabled in the Instrument Configuration for Shared instruments.
- The FID (Flame Ionization Detector) now supports data acquisition of up to 600 Hz (note that a firmware upgrade is also required)

### 3.1.7 Decoupling of MS Drivers from Chromeleon Setup [33340]

With this release, the instrument drivers for mass spectrometers have been decoupled from the main Chromeleon setup. This means:

- MS drivers are not automatically installed
- MS drivers are not included on the Chromeleon distributable
- Thermo Foundation is no longer installed, nor is the version checked

This provides the following benefits:

- Any MS driver validated for use with Chromeleon may be used
- More than one MS driver may be installed (though only one may be used at a time)
- There is no longer a Chromeleon dependency on Foundation (only the MS driver relies on a specific version of Foundation)

To control MS hardware, you should:

- Install Chromeleon as usual
- Install the version of Thermo Foundation compatible with the MS driver
- Install the MS driver

(Please refer to the MS Installation guide on the Chromeleon distributable for detailed instructions)

MS Drivers Supported by Chromeleon are specified in the LoSI (List of Supported Instruments) document included on the Chromeleon distributable. If needed, the drivers will be available for download from the Informatics Support Portal (for customer with Service contracts) and from the Thermo Scientific LSMS Software Download and Licensing Portal.

Note: The ISQ-EC/EM MS driver is an exception to all the above. As a native Chromeleon driver, it will always automatically be installed. No manual installation is required.

## 3.2 New and Updated Third Party Instrument Drivers

This chapter lists new and updated third party instrument drivers added to Chromeleon 7.2.10. For details on supported options, required licenses, installation, and control, refer to the Online Help or the List of Supported Instruments document found on the Chromeleon 7.2.10 DVD.

### 3.2.1 PerkinElmer Clarus 590 GC and Clarus 690 GC – New Driver [28852]

This release adds support for the PerkinElmer Clarus 590 and Clarus 690 GC.

Please note that the PerkinElmer Clarus 590 is available in the configuration as Clarus 580/590 and the Clarus 690 GC is available in the configuration as Clarus 680/690.

### 3.2.2 Varian / Bruker / SCION GC – New Driver [SWFR-3439]

This release adds support for the following three models of GC:

- Varian / Bruker / SCION 430-GC
- Varian / Bruker 3900-GC
- Varian / Bruker / SCION 450-GC

**Note**: This driver is not automatically installed as part of the overall Chromeleon setup. If control of this hardware is desired, please manually install the driver using the installer found in the /Drivers/ folder of the Chromeleon distributable.

### 3.2.3 Agilent 7890 GC – Updated Driver [34690, SWFR-539, SWFR-47, 33186, 42325, 42324]

This release introduces into the Agilent 7890 GC driver the new “Flexible Dual Control” feature described in the Thermo Scientific TRACE 1300 GC section above.

The Agilent 7890 Driver has also been updated to add support for the following modules:

- G2317A: Pneumatics Control Module (PCM), when positioned on the GC as an Inlet, in the Front position, Back position, or in Both Inlet positions. Up to two PCM inlets can be configured per GC.
- G2317A: Pneumatics Control Module (PCM), when positioned as an Auxiliary device, supporting up to two channel of pressure control per PCM module. Up to three PCM auxiliary devices can be configured per GC.
- G3510A/G3511A: Multi-mode Inlet (MMI)
- G3440A: Nitrogen-Phosphorous Detector (NPD)

In addition, the Agilent 7890 Method Editor has been updated to add new pages for setting up Time Programs for Switching Valves.

### 3.2.1 Agilent 6890 GC – Updated Driver [35230, SWFR-3553]

This release introduces into the Agilent 6890 GC driver the new “Flexible Dual Control” feature described in the Thermo Scientific TRACE 1300 GC section above.

The Agilent 6890 GC driver has also been updated to allow the addition of a second external start port.

### 3.2.1 Agilent ICF – Additional Modules [29158]

This release of Chromeleon includes the Agilent Instrument Control Framework version A.02.05 which supports the latest HPLC instruments from Agilent. The Agilent ICF driver has been tested with additional modules. For a complete list of supported modules see the List of Supported Instruments. For latest release information provided by Agilent Technologies, including release notes and validation certificates, please see \Packages\Agilent Instrument Control Framework\Documentation.

**Note**: Thermo Fisher Scientific recommends migrating to the new Agilent Chromeleon driver as soon as possible. During a transition period the Agilent ICF driver provided by Thermo Fisher Scientific will still be available. However, the driver will be phased out in the next major version of Chromeleon 7.

## 3.3 Compliance and Data Integrity Improvements

### 3.3.1 New User Privileges

#### *3.3.1.1 Modify a Running Sequence [35383]*

A new user privilege called “Modify a Running Sequence” has been added to the list of available privileges for a user role. This privilege is located in the Sequence section and controls the ability to save changes to a sequence that is currently being acquired.

#### *3.3.1.2 Edit Injection Specific XIC Detection Settings [26031]*

A new user privilege called “Edit Injection Specific XIC Detection Settings” has been added to the list of available privileges for a user role. This privilege is located in the Manual Data Processing section and controls the ability to make changes to the detection algorithm for a single XIC.

#### *3.3.1.3 Manual MS Tuning/Calibration [28808]*

A new user privilege called “Execute On-Demand MS Manual Tune/Calibration” has been added to the list of available privileges for a user role. This privilege is located in the Instrument Control section and controls the ability to perform an MS manual tune or calibration from within the ePanel of a supported mass spectrometer. For supported MS hardware, without this privilege, a user is not permitted to perform an on-demand manual tune from the ePanel (nor from outside Chromeleon). See section 3.3.2.2 for supported hardware.

#### *3.3.1.4 MS Tuning/Calibration Within a Sequence [28808]*

A new user privilege called “Execute MS Auto Tune/Calibration within a Sequence” has been added to the list of available privileges for a user role. This privilege is located in the Instrument Control section and controls the ability to perform an MS auto tune or calibration as a line in a sequence. For supported MS hardware, without this privilege, a sequence containing an autotune step will fail. See section 3.3.2.2 for supported hardware.

### 3.3.2 Compliant MS Tuning Improvements

This section describes enhancements to the compliance related functionality of Chromeleon as it relates to Tuning and Calibration of mass spectrometers.

#### *3.3.2.1 New User Privileges for MS Tuning/Calibration*

Please refer to section 3.3.1 for new user privileges related to compliant MS tuning and calibration.

#### *3.3.2.2 Automatic Archiving of Tune Results [26011]*

The existing feature in the Administration Console for automatically archiving instrument audit trails has been extended to also archive Tune Results when they exist.

#### *3.3.2.3 Current Support for Compliant MS Tuning/Calibration*

The following table summarizes the current support for managed tuning and calibration of MS hardware.

Note: Please refer to the List of Supported Instruments (LoSI) for this release for details on minimum driver and software versions.

| Thermo Scientific Mass Spectrometer | Type | On-demand Auto Tune / Calibration | On-Demand Manual Tune/Calibration | Auto Tune / Calibration Within a Sequence |
|---|---|---|---|---|
| ISQ-EC/EM | SQ MS for IC/HPLC | Supported | Supported | Supported |
| TSQ Endura, Quantiva, Altis, Quantis, Fortis | QqQ MS for IC/HPLC | Supported | Supported | N/A |
| Exactive / Q-Exactive Family | OrbiTrap MS for IC/HPLC/GC | Not Supported | Not Supported | N/A |
| ISQ Family | SQ MS for GC | Not Supported | Not Supported | N/A |
| TSQ family | QqQ MS for GC | Not Supported | Not Supported | N/A |
| MSQ | SQ MS for IC/HPLC | Not Supported | Not Supported | N/A |

### 3.3.3 Audit Trail Entry for Queue Submission (35579, 26395)

When a user adds a Sequence to an Instrument Queue, an entry is now added to both the Instrument and Sequence Data Audit Trails containing the name of the user who added the job to the queue.

A new report variable “addToQueue_Operator” is now available in the Report Formula Editor dialog box. This variable is found in the Sequence category and allows the name of the user who added the sequence to the queue to be shown in a report.

### 3.3.4 Report Variable ‘Effective Cobra Smoothing Width (Cobra)’ (34167)

When choosing the detection parameter ‘Smoothing Width = Auto’ the Cobra peak detection algorithm calculates a specific smoothing width value for every single data point in the chromatogram. A report variable in the Chromatogram report category called ‘Effective Smoothing Width (Cobra)’ can now be used to report these values. The time parameter of the new report variable defines the data point for which Cobra has calculated the smoothing width value during the peak detection.

### 3.3.1 Studio Session of a Sequence in a Fixed Version (29120)

When a previous version of a sequence or any other data object in the data audit trail window is selected, a new toolbar button called 'Studio' will now open a read-only studio window. Depending on the type of data audit trail record, Chromeleon will automatically select the category (Injection List, Instrument Method, Data Processing, etc.…) in the studio window, as well as the injection, the channel and a reasonable set of panes in the Data Processing category.

When multiple versions of a sequence are opened in this way, each version will appear in a separate Studio session, allowing visual side-by-side comparisons.

When a sequence is opened for a specific version, all associated methods (Instrument Method, Processing Method, etc.…) of the sequence are opened with their corresponding versions. The data processing and computed results of this sequence version will be based on these versions.

For sequences where the dynamic data processing of Chromeleon is not applied (Non-targeted MS Processing, Intact Protein Deconvolution) the studio window will show always the current results, even if the sequence is opened for a specific version. In this case the injections in the navigation area of the studio are tagged with an icon indicating that the results don't match the corresponding processing method version.

## 3.4 User Database Administration

### 3.4.1 Reset Password Workflow (36163)

When editing a user in the user database, a new toolbar button called "**Reset Password**" is now available. The following options are available:

- **Logon / Signature Password**: The administrator user can choose which password (Logon or Signature) should be reset.
- **User records with empty e-mail address property:**
    - **New Password**: The administrator user can either enter the password manually or automatically create a random password via the "**Generate**" button.
    - **Reset Password**: When clicked, the currently visible password in the 'New Password' field becomes the new password of the selected user. This user must then change this password the next time they log into Chromeleon or the Administration Console.
- **User records with valid e-mail address:**
    - **Reset Password**: When clicked, a new random password is assigned to the selected user. This user must then change this password the next time they log into Chromeleon or the Administration Console. The new password is sent via an e-mail to the selected user using the e-mail address in the user record. **Note**: The newly reset password is not disclosed to the administrator who executed the reset.

### 3.4.2 Fine Granular Privileges for Administrators (26032)

It is now possible to define limited administrative roles in which users have the ability to perform some but not all some but not all administrative tasks related to user management. This allows for the creation of roles with the ability to perform routine tasks related to managing users. In such a role, an administrator would be prevented from granting themselves higher privileges than what they were assigned. In addition, when creating or editing users, they can only create users with the same or less privileges and access.

For this purpose, each user now has a new tab page called 'Manage Users'. On this page, the user may be granted full or limited administration rights. Specific options include:

| Privilege | Description |
|---|---|
| Manage user database policies | Controls the ability to make changes to the user database policies |
| Manage access groups | Controls the ability to create, delete or modify access groups in the user database |
| Manage roles | Controls the ability to create, delete or modify roles in the user database, e.g. to enable a certain privilege in a role |
| Create users | Controls the ability to create users using the 'Create New User' wizard in the Administration Console |
| Create users via clone | If the 'Create users' option is disabled, this privilege controls the ability to create new users via the 'Create New Users' wizard. |
| Modify users | Controls whether this administrator can change any property (e.g. Full user name, Title, etc.) of any user record in the user database. Assigning new access groups or roles is controlled via a separate option |
| Reset password of users | **:** If the 'Modify users' option is disabled the 'Reset password of users' option allows this administrator to reset the password of any user in the user database |
| Delete users | Controls the ability to delete users. This option is only available if the corresponding user database policy option (User Account Restrictions -> Allow delete user accounts) is enabled |
| Assign access groups | Controls which access groups can be assigned to a user. The list of these access groups is defined in the "**Assignable access groups …"** dialog. These assignment restrictions are active when creating a new user or modifying existing users |
| Assign roles | Controls which roles can be assigned to a user. The list of these roles is defined in the "**Assignable roles …"** dialog. These restrictions apply when creating a new user or modifying existing users. |

## 3.5 Chromeleon Server and 247 Instrument Controller Enhancements

### 3.5.1 Automated Roll-out of Chromeleon Updates (28843)

Chromeleon 7.2.9 introduced the first phase of a new mechanism for updating clients, IPCs and 247 Instrument Controllers in an Enterprise environment. This enables Chromeleon Administrators to manage the process of rolling-out Chromeleon software updates across their entire Chromeleon domain from within the Chromeleon Administration Console.

Phase One featured new options to decide *what* would be installed and *when* the installation would occur. Chromeleon 7.2.10 now introduces Phase Two of this feature, which adds the ability for Chromeleon to perform the installation of the Chromeleon update.

Administrator users with the necessary privileges can create an "Updater Package" from a Chromeleon Service Release (SR), Maintenance Update (MU), or Hotfix, then determine which computers in the Chromeleon Domain will receive this Updater Package. They also define a Maintenance Window during which the package will be installed.

Before the defined start of the maintenance window, Chromeleon automatically downloads the Updater Package to the target computer(s). The progress of the download(s) can be monitored in the Chromeleon Administration Console. The maintenance window prevents Sequences from being started during the maintenance period on any IPCs or 247 Instrument Controllers to which it has been applied. When the maintenance window begins the Client, IPC or 247 Instrument Controller access to the computer is restricted, the updater package is made available for installation, and the Chromeleon updater service can perform the update.

### 3.5.2 System Printers and Central Reporting/Exporting Updates (28812)

Chromeleon 7.2.9 introduced the concept of 'Central Reporting' and the use of 'System Printers', managed by a Print and Export Service.

This allows post-acquisition reporting and exporting to be centrally performed by a Chromeleon Server (normally a Data Vault Server or a dedicated Printer Server) rather than from each individual client/IPC. The main benefits of this approach are that (1) the Windows session on the Chromeleon client may be closed after a user has started a sequence that requires post-acquisition reporting and (2) Chromeleon client computer(s) or IPC(s) no longer needs to have a local printer configured.

Chromeleon 7.2.10 adds several enhancements to this feature:

- A default printer can be defined for any Sequence. This can also be enforced by a Chromeleon System Administrator in the eWorkflow and will then apply to all Sequences created from the eWorkflow. Enforced options cannot be modified by users in the sequence.
- The option to choose when post-acquisition processing will be performed ('after each injection' or 'after the entire sequence') can now be enforced by a Chromeleon System Administrator for an Instrument and will then apply to all Sequences created on that Instrument. Enforced options cannot be modified by users in the sequence.
- Reporting options are now displayed on a new "Auto Reporting" tab in the eWorkflow Sequence General page and the Sequence properties dialog. These options are controlled by the Create Electronic Report privilege. Users who do not have the privilege to Create Electronic Reports cannot change these options.
- Electronic Reports are now generated and saved on a Print Server, rather than a local Chromeleon client. Providing a Print Server is available on the Chromeleon Domain, a user can now create a Sequence, configure automatic Electronic Report generation and Save, add the Sequence to the queue, and then log off their Windows session.
- If the selected/open Sequence has a saved electronic report, this can now be printed on a System Printer by selecting the Print option in the Chromeleon Console or Studio. The list of available printers will include any configured System Printers. If the Sequence does not have a saved electronic report, the user can create and print an ad-hoc report on a local printer.
- An audit record is now created when a new system printer is added.
- Print Servers, and thereby any System Printers which belong to a Print Server, can now be assigned to an Org Unit. Users can only select System Printers which are available in their Org Unit or in the Global Org Unit.

# 3.6 Improvements to MS Workflows

## 3.6.1 Support for Bioanalysis Workflows

### *3.6.1.1 Tracking of "QC Sample" Terminology (26003)*

In the Administration Console, a Global Policy specifies if all visual references to "Check Standards" in the Console, Studio and Reports should be replaced with "QC Sample". When a sequence is created, this setting is now saved with the sequence. Thereafter, when the sequence is viewed, if the stored setting does not match the current system setting, the user is notified via the Message Bar.

### *3.6.1.1 Report Template for Bioanalysis (35386)*

When creating a new Report Template, a default report template is now available with sheets tailored to reporting LCMS Bioanalysis results.

### *3.6.1.2 MS Specific View Settings (49704)*

Several View Settings for review of Bioanalysis MS data have been added to the /Contributed Content/ Folder of the Chromeleon distributable. These settings may be imported into Chromeleon and added to MS sequences. These view settings include layouts for:

- Calibration Curves for All Components
- All XICs of a Component Across All Injections
- All XICs of a Component Across All Calibration Standards
- All XICs of a Component Across All QC Samples
- All XICs of a Component Across All Unknowns
- Mass Spectra of a Component Across All Injections

## 3.6.2 Improvements to Intact Protein Deconvolution Workflows

### *3.6.2.1 Editing Advanced Parameters (35388)*

It is now possible to edit all the deconvolution algorithm parameters, including those in the Advanced Parameters dialog.

### *3.6.2.2 Show/Hide Charge States on the Source Spectrum Plot (29187)*

The charge state overlay on the source spectrum plot may now be hidden to improve readability. This option is available in both the Source Spectrum pane of the Intact Protein Deconvolution category and the corresponding report object of the Report Designer. The option is located on the "Frame and Axes" tab of the Properties dialog.

### *3.6.2.3 Show/Hide Chromatogram TIC/BPC on the Chromatogram Plot (29186)*

In the Report Designer, the sub-pane of the Result XIC Chromatogram plot which shows the TIC/BPC plot may now be hidden to improve readability of the XIC. The option is located on the "Select Component" tab of the Properties dialog.

### *3.6.2.4 Add Result Component to MS Components Table (45484)*

In the Results pane in the Intact Protein Deconvolution category, right-clicking on a component in the table now offers an option to "Add to Component Table". Selecting this option will create a new entry in the MS Components table of the processing method based on the selected Results component.

### *3.6.2.5 Report Template for Protein Deconvolution (35389)*

When creating a new Report Template, a default report template is now available with sheets tailored to reporting Intact Protein Deconvolution results.

### 3.6.3 Improvements to Non-Targeted MS Processing Workflows

#### *3.6.3.1 Peptide Editor (35399)*

When the MS Component Table of a Processing Method contains components identified as peptides, the context menu for the peptide components now include an option to 'Edit Peptide Name'. Selecting this option will display an interactive editor that includes the ability to edit the peptide sequence and insert strings from a list of supported modifications. It also provides real time validation of the edits. When Ok is pressed, the isotopic distribution is recomputed and the resulting product mass, precursor mass and confirming traces are set accordingly.

#### *3.6.3.2 Improvements to 'More' Button (35394)*

In the Chromatography Studio, the 'More' Button has been renamed 'Advanced'. In the dialog which appears when that button is pressed, the 'Max RT Shift' parameter will now automatically be set to the same value as 'Frame Time Width'. Existing methods will not be changed if Frame Time Width does not match Max RT Shift.

#### *3.6.3.3 Store NTMS Parameters as Part of the Processing Method (35390)*

Non-Targeted MS processing parameters are now stored as part of the processing method. The Navigation Pane in the Studio in the Non-Targeted MS Processing category has been updated to show the processing method that are part of the sequence. The processing method for the current injection is highlighted. Access to the NTMS parameters is now managed by the same user privilege as for accessing other processing method parameters.

#### *3.6.3.4 Server-Side Processing for NTMS (35396)*

In an enterprise environment, Non-Targeted MS data processing is now performed on the PC hosting the data vault which contains the sequence. This can result in significant performance improvements when processing NTMS data.

#### *3.6.3.5 Auto-compute Peak Intensity Threshold Parameters for NTMS (35393)*

Additional options have been added to the 'Peak Intensity Threshold' parameter of the processing method for NTMS data processing. The threshold can be selected as either fixed or auto-compute. Fixed provides an option to manually enter the peak intensity threshold, while Auto compute calculates the threshold based on the percent of TIC or Base Peak chromatogram of the sample injection or reference injection.

#### *3.6.3.6 New Report Variables (35391)*

The average intensity over the frames for the sample and reference injections are now reportable as 'frame.avg_intensity' and 'frame.reference_avg_intensity'.

#### *3.6.3.7 Processing status indicator for NTMS data processing (35395)*

A status indicator has been added to the ribbon in Non-Targeted MS processing tab to notify the user when NTMS data is being processed.

## 3.7 Other Chromeleon Client Enhancements

### 3.7.1 Automatic Client Log Off with Release of Licenses (35382)

In the Administration Console, the existing User Database policy to manage automatic locking of client PCs after a period of inactivity has been enhanced to allow the system to automatically close the Studio and Console of a client PC. Closing the client will also free the user licenses that were being consumed by that client.

### 3.7.2 Additional Peak Identification Criteria (34187)

Chromeleon 7.2.9 allowed flexible identification criteria to manage cases where the retention time window of a component included multiple peaks. These criteria were:

- First - the first peak in the window
- Nearest - the peak with the retention time closest to the expected retention time of the component
- Greatest - the peak with the greatest peak height
- UV/MS Spectrum Match – the peak with the best UV/MS spectrum match factor using the UV/MS reference spectrum and the corresponding comparison criteria

With this release, these criteria have been expanded:

- In addition to 'First' and 'Nearest', it is now possible to specify the 2nd, 3rd or 4$^{th}$ closest peak in the retention time window
- In addition to 'Greatest', it is now possible to specify the 2nd, 3rd or 4th greatest peak in the retention time window
- It is also possible to specify 'Largest' peak (based on peak area), as well as the 2nd, 3rd or 4th largest peak in the retention time window

### 3.7.3 Multiple Component Assignments (28055)

In Chromeleon 7.2.9, a single component is assigned to a peak, based on the retention time window and the peak identification criteria.

With this release, it is now possible to manually assign multiple components to a single peak. Once assigned to a peak (as the first or an additional assignment) the component cannot be assigned to other peaks.

If a chromatogram contains multiple component assignments, the corresponding integration report table will list a separate result row for every of these assignments. The corresponding peak results are identical for the basic peak results as peak area or peak height. However, results based on the calibration of the component (e.g. the peak amount) will differ for these separate rows.

### 3.7.4 Improvements to MS Component Import (29196, 25865)

The existing feature for importing components into an MS Component Table of a Processing Method has been improved to support:

- Import of components from a CDB (Component Data Store) generated by TraceFinder versions 4 and 5
- Assignment of the quantitation XIC based on the "Use Quan Ion" column of the acquisition lists generated by some MS method editors.

### 3.7.5 Improvements to Mass Spec XIC Assignments (35401, 35405)

In the MS Components Table of the Processing Method, the existing dialog for specifying XICs (Extracted Ion Chromatograms) has been enhanced to simplify bulk updating of the XIC parameters. The former 'Ion Ratios' button has been renamed "Update XICs". In addition to the previously available tools for recomputing ion Ratios, it is now also possible to perform bulk operations to:

- Update XIC Filter Assignments based on a fixed selected filter
- Update XIC Filter Assignments based on the best match from the filters in the current injection
- Adjust Smoothing parameters
- Modify the "Include in Calibration' option for confirming ions

### 3.7.6 Injection Specific Detection Settings for XICs (26031)

When there is a valid XIC entry for at least one component in the processing method, a new tab called 'MS Detection' will now appear in the Peak Properties Pane of the Data Processing category of the Chromatography Studio.

#### *3.7.6.1 Setting XIC Detection Parameters*

For the currently selected XIC the user can choose which detection parameters are used for the corresponding peak detection. The following options are available:

- Use Processing Method (applied for all injections)
    - Use MS Default detection settings
    - Use XIC specific detection settings
- Use Injection specific detection settings

The options under 'Use Processing Method' are identical to those already available on the XIC page for components in the MS Component Table of the processing method.

With the new 'Use Injection specific detection settings' option, unique detection parameters may be specified for a single XIC (similar to the already existing graphical tools for manual manipulations). Like other modifications specific to a single chromatogram, these settings are **not stored** in the Processing Method but as saved as part of the injection record.

#### *3.7.6.2 Applying XIC Detection Settings to Multiple XICs*

It is also possible to apply the MS detection settings of the currently selected XIC to other XICs.

- When **'Use MS Default detection settings'** is selected, clicking **'Apply …'** will offer several options to apply the MS default detection settings to XICs of other components.
- When **'Use XIC specific detection settings'** is selected, clicking **'Apply …'** will offer options to copy (and automatically apply) the MS detection settings of the currently selected XIC to XICs of other components.

### 3.7.7 Highlight MS Component Plot Peaks for All XICs (35384)

In the MS Components plot, it is now possible to shade the identified peak for all ions, rather than only the selected ion. If displayed, then the identified peaks will also be shaded for the ISTD XICs. This option is available in both the MS Components pane of the Data Processing category and the corresponding report object of the Report Designer. The option is located on the "Peak Characterization" tab of the Properties dialog.

### 3.7.8 Highlight All Identified Peaks or All Detected Peaks in the Chromatogram Plot (35385)

In the Chromatogram plot, it is now possible to shade all the identified peaks or all of the detected peaks, rather than only the selected peak. This option is available in both the Chromatogram pane of the Data Processing category and the corresponding report object of the Report Designer. The option is located on the "Peak Characterization" tab of the Properties dialog.

### 3.7.9 MS Specific View Settings (49704)

Several View Settings for review of general MS data have been added to the /Contributed Content/ Folder of the Chromeleon distributable. These settings may be imported into Chromeleon and added to MS sequences. These view settings include layouts for:

- Calibration Curves for All Components
- All XICs of a Component Across All Injections
- All XICs of a Component Across All Calibration Standards
- All XICs of a Component Across All Unknowns
- Mass Spectra of a Component Across All Injections

### 3.7.10 Enhancements to SmartLink (34764)

The SmartLink feature of the Chromatography Studio simplifies data review by providing a tiled view of data from multiple components in an injection (Injection centric review). Supported panes include Calibration, MS Components, MS Spectra and UV Spectra.

With this release, SmartLink has been enhanced to also support:

- A tiled view of data from multiple injections for the same component (Component centric review)
- Ordering of tiles by injection or by peak

## 3.8 Other Enhancements

### 3.8.1 Atlas Data Import [SWFR-1520, SWFR-1237, SWFR-1239]

In addition to the existing ability of Chromeleon to import and display Atlas Workbooks, data and results, Chromeleon 7.2.10 now also imports the following additional Atlas audit and data integrity information:

- Atlas Workbook Authorization History
- Atlas Audit History
- Atlas User-defined columns and content

### 3.8.2 Allotrope File Export [SWFR-2892]

Chromeleon 7.2.10 adds Alltrope Data Format (.adf) to the list of available export file types.

Note: This feature requires a separate ADF export license option, please contact Thermo Fisher Scientific for details.

### 3.8.3 Chromatogram Export includes Time Zone Information (26443)

When exporting a chromatogram in text format, the corresponding injection time is now formatted as in the corresponding column of the Chromeleon Console (Sequence, Injection List) incl. the time zone information, e.g. 25/06/2018 09:11:30 -05:00.

### 3.8.4 Mass Spectrometry Data Import [SWFR-843]

Chromeleon 7.2.10 adds new options for importing mass spectrometry data from external applications. When importing data from either of the following two file formats, if the contents include mass spec data, this will be included in the import process:

- Analytical Data Interchange Format, *.cdf (also known as AnDI, NETcdf, or AIA)
- Generalized Analytical Markup Language, *.gaml

# 4 Resolved Issues

This chapter describes the issues that have been resolved with the release of Chromeleon 7.2.10.

Many trivial and minor issues have been resolved but are not mentioned here. If you require information about the status of an issue observed in a Chromeleon 7 release, but which is not listed here, please contact your local Thermo Fisher Scientific representative for more information.

The numbers in the first column of the table below refer to the Thermo Fisher Scientific tracking IDs.

| ID | Description |
|---|---|
| **CM-14128** | Non-Targeted MS Processing: When performing Non-targeted MS data processing, Chromeleon used a disk-based cache to increase processing performance. Over time, this cache would grow to consume large amounts of local hard disk space, requiring the occasional use of a Cache Cleaner utility.<br>Chromeleon no longer requires this cache – removing the need to periodically clean the cache. |
| **CM7-15548** | Reporting: If the autorepeat area contained a Summary- or Integration Table that was linked via SmartLink to the Interactive Chromatogram, the Report Table always showed all injections or peaks in the printout instead of showing only the ones which were currently selected or pinned in the Studio. Injection- and Peak Charts were affected, as well. |
| **CM7-17943** | Missing Check for Privilege “Print or Export Unsaved Data”: When logged on as a user with a role that didn’t allow printing or exporting unsaved data, it was still possible to edit an existing injection query, and then (without saving it) print or export the corresponding results. |
| **CM7-18576** | Sequence Properties: It was not possible to define default Report Templates or View Settings that were located outside the sequence if their path contained the '#'-character. An error was shown in this case. |
| **CM7-18984, 28562** | Agilent ICF: If an Agilent 1100 Instrument Method that included sample pretreatment was converted to run on an Agilent 1260, the sequence would abort with an “LC System Config mismatch” error. |
| **CM7-19829, 28560** | Agilent ICF: In the event of a network error, the Agilent ICF instrument configuration could not be read, which led to an inappropriate error message in the Chromeleon Studio. The error is now correctly logged in the Chromeleon Console log. |
| **CM7-20822** | Processing Method: When a different reference component for the retention time was selected in the component properties dialog, the corresponding percentage or time distance value was not recalculated automatically to preserve the absolute retention time value. |
| **CM7-21403** | Reporting: There was no Chromeleon variable to print the actually used injection volume and position in a report. It is now possible by using the new variables “audit.sampler.volume“ and “audit.sampler.position”. |
| **CM7-22018** | Mass Spectra Evaluation: If a MS raw file did not contain any mass spectra, Chromeleon filed that displayed mass spectral content (e.g. the mass spectra plot) showed the error message 'Sequence doesn't contain items". This message has been improved to read 'There are no mass spectra available'. |
| **CM7-22536** | Data Acquisition: An injection would not terminate when an Abort error happened at AcqOn time for 2D channels. |
| **CM7-23004, 27547** | Console: eWorkflows: Modifying eWorkflows required the privilege "Create eWorkflow". |
| **CM7-23311, 27589** | Import/Export: When exporting to AnDI/NetCDF file format, if the first peak in a channel was not identified, no peak amounts would be exported for any of the peaks in that channel. |

| ID | Description |
|---|---|
| **CM7-23348, 27613** | Agilent ICF: During the "Auto Configure" procedure sometimes an error message appeared. If this happened, the instrument was not configured. |
| **CM7-23585, 25888** | Reporting: If user A opened a sequence in the Chromeleon Console or Studio and did not commit some changes, then user B could open the same sequence at the same time and request a printout by using the command in the print preview. In this case the printout showed outdated data and results. Now Chromeleon prevents the printout in this scenario. User B must first reload the current sequence. |
| **CM7-23709, 26114** | Perkin Elmer GC: The help for installation of and troubleshooting for Perkin Elmer GCs has been improved. |
| **CM7-24142, 27871** | Sequence Save As: If the definition of an injection custom variable was changed so that the values in an older sequence version were invalid, then selecting “Save As” would fail with the message ‘This type cannot be applied - the value doesn't fit the type restrictions’. |
| **CM7-24744** | Chromatogram Plot: When overlaying injections in the chromatogram plot pane of the Studio, the colors of the overlaid chromatograms are assigned based on the order of the injection selections. Selecting a different channel for all overlaid injections caused a reassignment of the colors. A similar problem occurred when overlaying multiple channels for one injection and selecting a different injection. |
| **CM7-24840, 26161** | PerkinElmer GC: The automatic type recognition of the Perkin Elmer GC driver configuration module could fail for the PerkinElmer Clarus 580 GC type without an internal autosampler installed, detecting it as a PerkinElmer Clarus 500 GC instead. It is now possible to set the GC type for a Clarus 580 GC or a Clarus 590 GC to PerkinElmer Clarus 580/590 GC type manually and to then connect to the instrument. Setting the GC type manually will now also work for the PerkinElmer Clarus 6x0 GC series and the Clarus 4x0 GC series. |
| **CM7-25088, 28129** | Agilent LC System: The online help text describing the “Ignore missing vessel/vial” feature was not complete. |
| **CM7-25156, 26080** | PerkinElmer Autosystem XL GC: It was not possible to read or change the signal source of a channel in Chromeleon. |
| **CM7-25262, 25966** | Replication Framework: If a user opened a downloaded network sequence in the Studio and changed the processing method while the last injection of the sequence was running, then the subsequent upload of the sequence could fail if the studio window was closed during the upload. |
| **CM7-25704** | SST Overall Result: The injection report variable injection.sst_result (which reports the Test Case Overall Result) did not ignore unconditional test cases. If an unconditional test case had a “NA” result, this could result in an incorrect value for the report variable. |
| **CM7-25779, 26075** | Report Designer: When using custom formulas in a large report template with many sheets, opening the custom formula editor could cause the user interface to freeze until the editor was populated. |
| **CM7-25806** | Processing Method: Pasting more than 16 component records into the component table editor caused an error message to be displayed. |
| **CM7-25818** | For some autosamplers, in particular the Vanquish Autosampler, the following problem could occur: For an instrument method with a Position assignment (Instrument Setup, Equilibration, Inject Preparation or Inject stage, e.g. Position G:G5) and a sequence with more than one injection (Position e.g. R:A1, R:A2, R:A3 …), while all injections were performed from the correct Position (G:G5), it could happen that an incorrect Position (e.g. R:A1) was reported in the sequence, both in the audit trail and sequence information. |
| **CM7-25842, 28540** | UltiMate and Vanquish Drivers: When using a column compartment and configuring less columns than the capacity, the first column configured would appear in the Instrument Method Editor as Column A, and the second as Column B etc., even if the columns were physically in e.g. positions B and C. |

| ID | Description |
|---|---|
| **CM7-25846, 25963** | Scheduler: The user documentation has been expanded to warn that copying unfinished sequences with the scheduler can lead to unexpected behavior and must be avoided. |
| **CM7-25886** | Perkin Elmer GC: For a Perkin Elmer GC running for an extended period of time, occasionally a sporadic communication error 'Ring buffer overrun!' was observed. |
| **CM7-25895, 26317** | UltiMate and Vanquish Drivers: The Secure Boot feature of Windows 10 and Windows 8 blocked some USB drivers used by Chromeleon when Windows Defender Application Control (WDAC) was activated. This prevented any communication between Chromeleon and the USB-connected instrument. The drivers affected were CMUSB64.sys and MOTUSB64.sys, used by the UltiMate and Vanquish HPLC. The workaround was to leave WDAC disabled on any IPC which is connected to an instrument which used these drivers. These drivers have now been updated and now work correctly when WDAC is enabled. |
| **CM7-25912, 28797** | When sequences are redirected, it is sometimes required to manually remove the redirect info, e.g. to recover from certain upload errors. For signed sequences, this manual cleanup was not supported. This has been changed, and redirect information can now also be removed for signed sequences (only in Service mode). |
| **CM7-25913** | Studio: Saving a processing method with other sequence items failed without a warning message if fixed calibration injections or the fixed injection for chromatogram subtraction were updated and then other processing method changes were made without first saving. |
| **CM7-25921, 28804** | Studio: After directly editing the "Origin of Standards for Fixed Calibration" text field on the Calibration Page of the Processing Method, the manual change to this field was not saved with the processing method. With Chromeleon 7.2.10, this field is now read-only (as it was in versions prior to 7.2.6) |
| **CM7-25952, 28839** | Help and Manuals: The help text regarding usage of the NI-488.2 adapter for Waters GPIB instruments has been removed, as this adapter is no longer supported. |
| **CM7-25963, 28877** | Setup: Unattended installation of Chromeleon with both Waters Driver Pack and MS Driver Pack selected required multiple reboots during installation. After second reboot, installation did not reliable resume and Chromeleon installation failed. With Chromeleon 7.2.10, MS Drivers are no longer automatically installed as part of Chromeleon, so this the problem can no longer occur. |
| **CM7-26070** | MS Spectrum: When an MS spectrum was exported to the NIST MS Search program, the spectrum name was a GUID rather than a proper name. |
| **CM7-26150** | Report Designer: The report variable IntactDeconvolution.xtract.customDistributionTbl returned "AveragineTable.bavt". It now returns either "Intact Protein" or "Nucleotide". |
| **CM7-26223, 29294** | After a “Save as” operation for a signed sequence, the new sequence showed a data audit trail record ‘Signature removed’. The data audit trail now has a corresponding ‘Save as’ record instead. If the ‘Save as’ operation includes raw data, the signature removal of the new sequence and the corresponding electronic report are also recorded in the data audit trail. |
| **25879** | Non-Targeted MS data processing: Interrupting data processing during the detection phase sometimes resulted in the green 'finished' checkmark, even if processing was not finished. |
| **25881** | Integrion: Installing a DRS 600 suppressor caused Chromeleon to default to constant voltage mode and prevented a method set to constant current mode from running. |
| **25985** | Processing Method: Selecting the internal standard method option in the Component Properties dialog and not subsequently selecting a channel, would throw an unhandled exception. |
| **26038** | Report Designer: It was not possible to use a custom variable as part of a formula to filter a table. |

| ID | Description |
|---|---|
| **26391, 35576** | Studio: It was possible to overwrite items from the Studio by using the 'Save As…' command, even if the user did not have the corresponding 'Delete' privilege for that items. This applied to Instrument Methods, Processing Methods and Report Templates. |
| **26659** | Import/Export: User Management: If a cmbx file contained a Sequence (or other object) with the same name as an existing item, Chromeleon did not check that the user had the "Delete Sequence" privilege before overwriting the existing item. |
| **27526** | Help & Manuals: The online help now documents that the Accela / Surveyor PDAs can be used as MWD / VWD without requiring a 3D Data Acquisition license. |
| **27580** | Processing Method: After changing the calibration type of a component to "Calibration of other component", although the levels for the component were disabled in the component table, they were still enabled on the Calibration tab of the Processing Method properties dialog. |
| **27583** | Instrument Settings: Setting the NamedValuesOnly flag for a Chromeleon data type after the initialize call caused a different update of the symbol table than setting the flag during the initialize call. This is now fixed. |
| **27707** | ePanel Editor: After adding a custom panel to a panel tab set, if this ePanel was then deleted in the "Add ePanel" dialog or in the "ePanel Manager", then that ePanel would still be visible in the panel tablet. However, a right mouse click on the ePanel would generate an error. |
| **27781** | Agilent ICF: For the 7697A Headspace, it is now possible to select the option "None" for the inject port. |
| **27864** | Perkin Elmer GC: If 2 FID detectors were configured, the ePanels would both be displayed with the name of the first detector, although the temperature displayed was correct. |
| **27928** | Console: Instruments: Right-clicking on the "Stop or Start local Instrument Controller" link would toggle the Instrument Controller status. This now only occurs with a left-click. |
| **28115** | Waters Acquity: The error "Acquisition finished by Chromeleon before first data point could be transferred..." did not abort the sequence. The sample was set to interrupted and all following samples showed the same error message. This error now aborts the sequence. |
| **28117** | Reporting: Auto-reporting did not always produce an "End of Sequence" report if "Automatic upload of finished sequences" was disabled for the instrument. |
| **28260** | Console: Custom Variables: When a custom injection variable was deleted using the "Table Columns" dialog of the Chromeleon console, no confirmation message appeared, and the audit trial did not record the event. |
| **28424** | Reporting: If the printer being used for post-sequence reporting was changed during acquisition, and then the queue was stopped, the next report would get printed on the Windows default printer even if this had not been selected. |
| **28537** | Station Audit Trail: Any Instrument Abort error which occurred either while a Sequence was acquiring or while the instrument was Idle, would be incorrectly logged into the Station Audit Trail as "Sequence Abort" rather than "Abort error". |
| **28572** | ePanel Tab set Editor: Removing an ePanel from a tab set, adding a new ePanel and then removing a second ePanel generated an "unexpected error" |
| **28641** | Import/Export: Bulk import using drag-and-drop of a combination of .cmb and .cmbx files would not always import all the selected files. |
| **28911** | TriPlus RSH: If samples were appended to an acquiring Headspace or SPME sequence which used overlapping sample preparation, the entire sequence would abort and then restart. |
| **29011** | Updater service: An error message would sometimes be displayed when removing an Updater Package from the Client Repository, even though the package had been removed. |

| ID | Description |
|---|---|
| **29032** | MS Processing: When exporting a mass spectrum to the NIST MSSearch program, the resulting spectrum did not have a user-friendly name, meaning it could not be traced back to the source data in Chromeleon. |
| **29171** | Client: If a value was entered in a table column that had a greater number of decimal places than the precision specified for the column, an error that there were too many digits was displayed. The entered value is now accepted but rounded to match the column's precision. |
| **29172** | ICS-6000: When configuring an instrument method for an ICS-6000 system with a DRS 600 suppressor, setting the flow rate to 0 and then changing the mode would inactivate the eluent controls on the subsequent page and allow for the instrument method to be created without warning the user that such a flow rate was not allowed. |
| **29173** | ICS-6000: In some cases, running a sequence with SmartShutdown enabled would result in an illegal read access error, putting the instrument in an error state upon the start of SmartShutdown. |
| **29185** | Console: Creating a query, then exiting that query without saving it, would incorrectly create both a "Created injection query" and "Deleted injection query" in the audit trail. |
| **29277** | Setup and IQ: The chromeleon.exe.config file contained duplicate entries for some settings in the appsettings node. |
| **31904** | Data upload: In an emergency situation, uploading or copying a sequence that was missing some raw data files was not possible. The sequence would be stuck in the queue and a recovery was not possible. It is now possible to do a manual upload or a sequence copy operation for a sequence even if raw data files are missing. |
| **33496** | Vanquish: Instrument Method: For Chromeleon versions prior to Chromeleon 7.2 SR5 MUg, for the Vanquish Autosampler, there is a discrepancy between the wash speed in the driver and the pump speed in the firmware. As a result of this mismatch the pump delivered 1.7x more liquid than set in the instrument method. In addition, the WashSpeed Property had a range of 10 - 83.3 µL/s in Chromeleon, whereas the actual range is 17 - 140 µL/s. This issue has been addressed in Chromeleon 7.2 SR5 MUg.<br>To estimate the overall consumption, it needs to be taken into account that during needle lift from the wash port the maximum wash speed is applied to avoid droplets from sticking to the needle. Please calculate as follows:<br>Consumption [µL/wash] = WashSpeed * (WashTime + 1 s) + (140 µL/s * 7.2 s)<br>Some customers had already recognized that their setting in the instrument method did not match the actual solvent consumption and may have compensated this issue by reducing the wash speed set in the instrument method by a factor of 1.7.<br>Customers who have been using a wash speed between 17 µL/s and 83.3 µL/s in their instrument method will see a reduced wash speed after the upgrade to Chromeleon 7.2 SR5 MUg (reduced by a factor of 1.7).<br>Customers who have been using a wash speed lower than 17 µL/s in their instrument method will get a ready check error after the upgrade to Chromeleon 7.2 SR5 MUg.<br>Required Actions: In case the wash speed was adapted previously, please adapt the instrument method to use the wash speed desired (without compensating by a factor of 1.7) and to use a wash speed in the range of 17 - 140 µL/s. If an instrument method is not adapted, this may lead to reduced wash performance and sample carryover.<br>Please note that the actual pump rate of the wash pump may vary with the setup of the system. The values given above assume that the suction line uses the silicone tubing shipped with the original equipment, that the line is approximately 1 m in length, and the bottle is placed 600 mm above the inlet of the wash pump in the solvent rack. For longer lines and bottles placed at a lower position, the actual pump rate decreases (and vice versa). Please also note that for the Vanquish second generation wash port the actual pump rate is up to 10% higher due to a reduced flow resistance. |

| ID | Description |
|---|---|
| **34245** | When a sequence was running, occasionally on the client Console the miniplot would not be updated and the status of the injection would stay as “synchronizing” after it was already finished. |
| **34504** | Help & Manuals: Added troubleshooting guidelines in case where Symantec Endpoint Protection stopped working properly after installing Chromeleon. |
| **34568** | Studio: Tentatively Identified Peaks Pane: When the processing method included internal standards, estimated amounts for the peaks were not being reported in the table. |
| **34987** | Virtual Column: After upgrading to Chromeleon 7.2.9, it was no longer possible to simulate a Chromatogram using the virtual column feature. |
| **35179** | Report Designer: When Manual View Updating was enabled for a sequence, if a spreadsheet formula was entered into a report sheet, then updating the views would replace the formula with a static calculated value |
| **35310** | Studio: Reporting: Print Settings: If the Cancel button was clicked in the Print Settings dialog box, Chromeleon would behave as though changes had been made by displaying the Save icon and persisting any changes if the dialog was reopened. |
| **35769** | Peak Grouping: Fixed Calibration: After selecting a sequence for fixed calibration or updating an existing fixed calibration, components which are supposed to be calibrated using a named peak group in the source sequence didn’t reveal any calibration related results (e.g. peak amount) in the destination sequence. This issue was not present in Chromeleon releases prior to 7.2.9. |
| **36261** | Chromeleon Drivers: Waters AcquitySystemDriver: When controlling a Waters ACQUITY TUV detector or a Waters 2489 detector (Alliance) using Chromeleon 7.2.9, the detector did not acquire any channel data. |
| **36412** | Admin Console: Users without the Manage User Database were able to view (but not edit) User Database sections (Global Policies, User Database, Audit Trail) of the Chromeleon Administration Console. |
| **36882** | Admin Console: Global Policies: Email Configuration: Clicking the test configuration button would result in a message that an email had been sent, whereas Chromeleon had only *attempted* to send an email. The message has therefore been updated to make it more accurate. |
| **36933** | Console: When Copying/pasting a sequence containing custom variables, an error would sometimes be displayed stating "This type cannot be applied - the value doesn't fit the type restrictions". |
| **37906** | Instrument Drivers: Agilent 6890: Data captured with a µECD detector on an Agilent 6890 GC showed pA as the unit instead of Hz. In order for the new units to be stored in the instrument configuration, users need to edit the instrument properties, select a different detector type and then re-select µECD. |
| **37933** | ISQ EC/EM: The ISQ EC/EM instrument method editor would not accept total flow rates above 2 mL/min, even though flow splitting was activated and the actual flow to ISQ EC/EM was below 2 mL/min. |
| **38033** | Help & Manuals: Improved explanation of query search rules. |
| **38039** | GC drivers: Agilent 6890: If a Sequence was started on one instrument of a dual-inlet Agilent 6890 with Sharable=Off, attempting to start a Sequence on the second instrument would fail and would cause data acquisition in the first Sequence to stop. |
| **41386** | ICS-5000: Suppressor current settings are now displayed on the DC Home panel |
| **41586** | GC drivers: DDK: Dual Inlet GC: Cancelling a sequence on one 'half' of a dual inlet GC, even if that sequence was not yet running, would cause a running sequence on the other half of the GC to quit immediately. |

| ID | Description |
|---|---|
| **41952** | Scheduler: Electronic Signature: If a signed sequence has been copied or moved by the Chromeleon Scheduler Service for a Chromeleon Version 7.2 SR4 or earlier till 7.2 SR1 the verification of this copied sequence erroneously failed afterwards even with later Chromeleon Versions. With 7.2.10 the verification is now correctly reported as successful. |
| **43632** | TriPlus 500: Sequences started on the TriPlus 500 which contained a custom injection variable would fail the Ready Check. |
| **44772** | TRACE 1300 GC: The Inlet constant flow for an SSL inlet in Split mode could sometimes get changed when switching between the Instrument Method GC Inlets page and the Script Editor. |
| **44899** | Instruments, DDK Driver: A DDK driver developed with the released DDK based on Chromeleon 7.2 SR5 and with a reference to the Dionex.PhysicalUnits in the driver would crash in a newer Chromeleon version. This has been fixed; DDK drivers referencing Dionex.PhysicalUnits are loaded in Chromeleon 7.2.10. |
| **45560** | Agilent 7890: If an Agilent 7890 GC was shared between two instruments, with DualOperation set to Shared, and two Sequences with instrument methods which have Sharable set to Off were started, Chromeleon would keep the second Sequence at a state of Running while it waited for its turn to start. If you quit this waiting Sequence, it would correctly stop, but the other acquiring Sequence would also stop, which was incorrect behavior. Now when Sharable = Off, and either the acquiring or waiting sequence is quit, the other sequence continues correctly. See also new feature 34690 for further improvements for GC dual operation. |
| **46425** | Query Editor: If the name of a custom variable contains a “.” (e.g. Lims No.”) it was not possible to setup a corresponding query condition for this variable. As soon as the custom variable has been selected the query editor removed it immediately. |
| **47012** | Administration Console - Password Recovery: If the privileged actions ‘Create User’ or ‘Modify User’ are configured to require a dedicated authorization the password recovery procedure didn’t work, i.e. you couldn’t modify any user account (e.g. to reset the password) or create a new user account. Using Chromeleon 7.2.10 the password recovery procedure doesn’t request a dedicated authorization when modifying an existing user account or creating a new one. |
| **47099** | Data Audit Trail: Some special characters, when used in a Data Audit comment would cause reporting of the Data Audit Trail to fail with an unhandled exception. |
| **47247** | Instrument Controller: Running an MS method on one instrument on an Instrument Controller with non-persistent on-line signal extraction at the same time as baseline monitoring was taking place on another instrument on the same Instrument Controller would lead to abort errors. |
| **48512** | MS-Reporting: Group Amount: When using peak grouping for components which are evaluated with their corresponding XICs the report variable peak.groupAmount didn’t report the group amount but the single amount for this component. This issue was not present in Chromeleon releases prior to 7.2.9. |
| **48772** | Processing Method: A user without the Processing Method>Manage Component Variables privilege was nonetheless able to display and edit processing method components by using the Layouts section of the Ribbon Bar to select a layout that included a tab containing components. |
| **49477** | Sequences created in Chromeleon 6 have an injection parameter called ‘ID”, which is not a standard injection parameter in Chromeleon 7. When copying a Chromeleon 6 sequence to a Chromeleon 7 data vault, a new injection parameter (called "ID") is created to contain that value. However, when building an injection query, it was not possible to include “ID” as part of the search criteria. This has been corrected. |

| ID | Description |
|---|---|
| **49575** | Multi-Channel Reporting: If components with identical names have separate rows in the Processing Method for different channels - let's say Channel A and B - an integration report table for Channel A including so-called 'Undetected Component' and dedicated result columns for Channel B didn't show any results in these columns for components which are not detected on Channel A but are successfully detected on Channel B. |
| **50264** | Import/Export: Using Auto-reporting to produce a post-acquisition AnDI or GAML export file did not create the output file. |
| **50390** | TriPlus 500: If a GC had both a TriPlus 500 and another sampler configured (manual injection, TriPlus RSH), and an attempt was made to modify the sequence on the 'other' sampler, an Abort Error would incorrectly be reported. |
| **51940** | Vanquish Autosampler: A Vanquish Autosampler configured with a charger would abort a Smart Startup, Smart Standby or Smart Shutdown. |

# 5 Limitations and Known Issues

The following sections list known issues and limitations. The numbers in the first column of the table below refer to the Thermo Fisher Scientific tracking IDs.

## 5.1 Limitations with Thermo Scientific Instruments

| ID | Description |
|---|---|
| **CM7-16851** | UltiMate 3000 MWD-3000 and DAD-3000: In the Instrument Method Editor for these devices, the script page offers one additional option for the data collection rate (20 Hz) that is not present in the Instrument Method Wizard. This additional option is a valid value for this parameter. Although it is possible to manually type in a value for the data collection rate that is not in the list, these values will be rejected by the Ready Check when a sequence is submitted. |
| **CM7-21342** | Vanquish Variable Wavelength Detector: For acquiring data on a single channel only using the Vanquish VWD it is necessary to use channel UV_VIS_1. |
| **CM7-25370** | Vanquish Duo: Instrument Method, Electronic Report: An inverse gradient method created on Chromeleon 7.2.7 (or earlier) can be run on Chromeleon 7.2.8 or later. However, Chromeleon 7.2.8 does not support Smart Startup, Smart Standby or Smart Shutdown settings for inverse (or tandem) gradient methods. Hence in Chromeleon 7.2.8, for an inverse gradient method created on Chromeleon 7.2.7 (or earlier) any Smart Startup, Smart Standby and/or Smart Shutdown settings included in the method are neither executed nor reported with Chromeleon 7.2.8. |
| **CM7-25447** | Vanquish Drivers: Vanquish Duo Autosampler: If the user adjusts the needle height, this is only adjusted for the left sampler unit, and not for both sampling units as would be expected. The user should use the property Sampler2.SampleHeight to set the height for the right sampling unit |
| **52858** | Vanquish Drivers: In rare circumstances if a transport error occurs with the Vanquish Autosampler (VH-A40-A or VH-A90-A) with the charger, it is not possible to bring the system into an operational stat using the commands “Reset“ or “Cleanup”. An instrument controller restart is necessary. |
| **CM7-24471** | Shared Devices: When configuring an Ultimate 3000 DGP or a Vanquish Dual Pump, a Vanquish Dual Autosampler, or Vanquish Column Compartment that is shared between two instruments, make sure to use non-identical device names for the instrument devices (e.g., PumpLeft and PumpRight).<br>If an Ultimate 3000 DGP or a Vanquish Dual Pump, a Vanquish Dual Autosampler, or Vanquish Column Compartment are shared between two instruments with identical device names (e.g., "Pump") in both instruments, removing the driver from one instrument and moving it to the other instrument results in a fatal error.<br>Workaround: Rename the instrument devices to non-identical device names (e.g., rename the pump units to PumpLeft and PumpRight). Save the instrument configuration and restart the server. Alternatively, remove the driver, save the configuration, restart the server and re-add the driver again. |
| **CM7-25466** | Shared Devices: When using a Vanquish Dual Autosampler in shared mode, if the two instrument methods have different temperatures set, the temperature setting of the sequence started first is overwritten by the setting of the sequence started second. |
| **CM7-18098** | Accela Open Autosampler: Sequences cannot be run when the sampler does not include the DLW option. This configuration is not supported and requires a custom script. |

| ID | Description |
|---|---|
| **CM6-21321** | Accela Open Autosampler: When using this autosampler, a dot ('.') must be used as decimal separator. |
| **CM7-15457** | ESA Drivers: Coulochem III: Before setting the cell state to ON manually, please ensure that eluent is flowing into the detector. Otherwise the detector can be damaged. |
| **CM6-22760** | TRACE 1300 GC: The autozero function does not work correctly for the FID, NPD, ECD and FPD detector types. |
| **CM7-25600** | TriPlus RSH / TriPlus 100: When running the TriPlus RSH or TriPlus 100 in Clone mode (Autosampler serves two GCs), if the Virtual Terminal is opened from the ePanel of one of the GCs and a Sequence is started for the other, the Sequence fails with an error; "Sample - Error while validating script. (Trayplate 1: Slot 1:3)". This can be worked-around by closing the Virtual Terminal on GC1 before attempting to start the run on GC2. |
| **CM6-23614** | TriPlus RSH: When using the TriPlus RSH in constant double pro headspace mode, starting a sequence that includes a constant double pro method will generate a validation error. |
| **CM6-24043** | TriPlus RSH: If firmware version 2.2 is installed on the TriPlus RSH autosampler, then tool changes on the instrument are not immediately recognized in Chromeleon. It is necessary to disconnect and reconnect the instrument after such changes are made; they will then be detected. |
| **47654** | TriPlus 500 HS: When the TriPlus 500 is in an Error state and a second user attempts to connect, the instrument audit trail of the second user will continuously receive error messages stating the driver is already connected. |
| **52172** | TriPlus 500 HS: When acquiring a sequence with overlapping sample preparation, the system may create an audit trail log event regarding a vial/injection that is not the current injection. When this occurs, the event is logged to the current injection rather than the preparing injection to which it relates. |
| **CM7-25760** | MS Drivers: When working with MS devices, the raw file must of necessity be created prior to the injection taking place. It is therefore expected that the time stamp in the raw file header differs slightly from the injection time noted in Chromeleon. |
| **CM7-15632** | TSQ Quantiva and Endura: When removing the source from a TSQ Quantiva or Endura in mid-acquisition, the sequence does not abort. |
| **CM7-16030** | TSQ Quantiva and Endura: With these instruments the standby state reports that the instrument is on, regardless of the real instrument state. |
| **CM7-16154** | TSQ Quantiva and Endura: When creating an Instrument Method for the TSQ Endura or TSQ Quantiva, the MS run time is not the same as the Chromeleon run time. The user should enter the correct run time on the MS page of the Wizard. |
| **CM7-17668** | TSQ Quantiva and Endura: TSQ Endura and TSQ Quantiva instruments are usually shipped with a PC ("Endura/Quantiva PC") that includes all the necessary instrument data files, such as calibration files, for operating the MS instrument. If you want to control an instrument using a different PC, make sure that the specific instrument data files residing on the Endura or Quantiva PC are backed up and transferred to the new PC. For details on performing this process, please consult with your local MS field service engineer. |
| **CM7-18129** | TSQ Quantiva and Endura: After an upgrade of the TSQ Endura/Quantiva instrument driver, an error may occur when opening the Chromeleon Instrument Configuration. To resolve the error, remove the Chromeleon Mass Spectrometer driver from the configuration and then add it again. This will update the configuration information in Chromeleon to match the updated TSQ Endura/Quantiva instrument driver version. |
| **CM7-21967** | TSQ Quantiva and Endura: The TSQ Endura and Quantiva mass spectrometer method editor is supported on English operating systems with English/United States regional settings only. |

| ID | Description |
|---|---|
| **CM7-24445** | TSQ Quantiva and Endura: Instrument methods written with an earlier version of the method editor cannot be opened with a newer version thereof. |
| **CM7-23138** | MSQ Plus: It is recommended to use only the MS driver provided on the Chromeleon installation medium. Other versions of the MSQ Plus driver may not be compatible with Chromeleon. Please consult your local field service engineer for additional details. |
| **CM7-16557** | MSQ Plus and Tune Application: When using the MSQ Plus with Chromeleon the user has to wait for the Chromeleon Instrument Controller to be in idle mode before opening the Tune application. Without waiting, the MSQ Plus will not be able to change the operating mode (On, Off, Standby), or it will not be possible to run injections. To recover from this error both the PC and the MSQ Plus would have to be restarted. |
| **CM7-20295** | TSQ 8000 and ISQ Series: When a GC-MS instrument method includes a scan event containing multiple SIM ions (e.g. “SIM 115, 152, 188”) then data from matching filters collected at different time ranges will not be combined into a single filter in the data for that injection. |
| **CM7-23669** | TSQ 8000 Series: If you attempt to abort an acquisition of multiple timed acquisitions while the MS is acquiring data, the MS will not cycle back to a Ready state and the sequence will not end. It is necessary to stop and restart the Instrument Controller to regain access to the instrument. |
| **CM7-22490** | Exactive Series: When setting the divert valve parameters for an Exactive Series MS with a 2-position valve, the valve positions are recorded in the MS raw data opposite of how the divert valve parameters were configured. |
| **CM7-17500** | Exactive Series: Exactive Series instruments are usually shipped with a PC (“Exactive PC”) that includes all the necessary instrument data files, such as calibration files, for operating the instrument. If you want to control an Exactive instrument using a different PC, make sure that the specific instrument data files residing on the Exactive PC are backed up and transferred to the new PC. For details on performing this process, please consult with your local MS field service engineer. |
| **CM7-20547** | 247 Instrument Controller: TDS4: Due to the smaller internal storage space available on TDS4 models of 247 Instrument Controller, and the larger data files created by 3D acquisition, TDS4 models of 247 should only be used to acquire 2D data. To acquire 3D data, a TDS5 model of 247 should be used. |
| **35925** | Vanquish Variable Wavelength Detector: If the shutter is opened or closed manually (e.g. via ePanel), no firmware download is possible afterwards. The audit trail message is "Error: Cannot start firmware installation. The module is still busy."<br>Workaround: After opening or closing the shutter manually (e.g. via ePanel), disconnect and reconnect the Vanquish VWD before downloading the firmware. |
| **50741** | ICS-3000 VWD: After upgrading the VWD firmware to version 1.3 or 1.4, when attempting to configure the VWD, it can happen that the following error is reported in the Instrument Configuration Manager audit trail:<br>“{UV} Cannot connect to the device. Verify that the firmware is running and has completed its initialization, then retry. If no firmware is running even power-cycling the detector, use Chromeleon Instrument Configuration Manager to install a new firmware. “<br>If this occurs:<br>Double click on the ICS VWD device to open the device configuration dialog<br>Click the OK button.<br>It may be necessary to repeat the above procedure several times before successfully connecting. It may also be necessary to reboot the PC.<br>**Note: Until a firmware fix is available, do not upgrade the firmware from version 1.25 if you have not already done so.** |

| ID | Description |
|---|---|
| **45471** | ICS Drivers: Attempting to configure both an ICS-600 and ICS-6000 on the same IPC will result in an Invalid Serial Number error message. These instruments should not be combined on the same IPC. |
| **52817, 52878** | TSQ LCMS Tuning: After tuning an MS instrument of the TSQ LC QqQ family, the tune report will sometimes not automatically appear in the list of available tune reports on the ePanel. If this occurs, please press F5 to refresh the screen and/or navigate to the \Instrument Data\<Instrument Name>\MS Tune Reports\ folder in the Data Category.<br>Note: If refreshing the screen doesn't work, it is necessary to close and reopen the client. |
| **53052** | TSQ MS Tuning: If the instrument is disconnected while a tune/calibration operation is in progress, the tune will not automatically fail or abort. It may be an hour or more before the instrument audit trail reports that the MS is disconnected. If the instrument is reconnected, the calibration will automatically resume. |

## 5.2 Limitations with the Waters Driver Pack

| ID | Description |
|---|---|
| **CM7-25485** | The Waters Driver Pack 2017 R2 cannot be installed on a PC running Windows Server 2016. The corresponding option is greyed out and cannot be selected during the Chromeleon setup. |
| **CM6-24164** | When the Waters Driver Pack 4 is installed in a Citrix environment, the World Wide Web Publishing Service is automatically disabled, so that after restarting the PC, the Citrix web application is no longer reachable. The service should be reset to automatic start, after which the application can be reached |
| **CM7-25782** | Waters Acquity: During long-running sequences it is possible that the PDA can get into or remain in a running state, thus preventing further injections from starting. A workaround is to add a post run stage with a delay of 90 seconds after the acquisition stop to prevent this error. |
| **CM7-19830** | Waters Acquity: When using the Waters Acquity driver in a Citrix environment, the Acquity console does not update correctly and therefore doesn't show current log file entries. This is due to a problem in the Acquity console and can be mitigated by using the instrument audit trail on remote clients. |
| **CM7-20374** | Waters Acquity: If the user attempts to open an Instrument method on a PC where the Waters Driver Pack is installed, but then selects "work offline", an error message will be shown. This is a problem of the Waters Driver Pack, the workaround is to ensure that the instrument can be reached, i.e. work online. |
| **CM7-22872**<br>**CM7-15225** | Waters Acquity - Console: When using the Waters Acquity driver, some Chromeleon screens may not appear properly, such that text from the previous screen is still visible. This has been observed with the Sequence Properties and the Chromeleon Log on screen. |
| **CM7-23504** | Waters Acquity: In rare circumstances when the user configures and then deletes an Acquity PDA, the module will still be shown in the Acquity Console. If a command is then executed (e.g. lamp on), the module disappears from the console, after which the user then needs to reconfigure the instrument in the Chromeleon Instrument Configuration Manager in order e.g. to turn off the lamp. |

| ID | Description |
|---|---|
| **CM7-23730** | Waters Acquity: When using the Waters Acquity Driver Pack4 and trying either to create a new instrument method, or to open the Acquity console from the ePanel a problem sometimes occurs. A message appears informing the user that launching the application had failed, and that the Acquity driver pack may not be installed. If this occurs, the user should contact Thermo Fisher Scientific for further advice. |
| **CM7-24022** | Waters Acquity: If the user has two Acquity systems connected to one Instrument Controller, the range for the column temperature in the Waters method editor does not always match the hardware configuration. This is affecting the method editor only and occurs when opening a method for instrument A while the Acquity console for instrument B is open. |
| **CM-9703** | Waters Driver Pack 2017 R2: When installing Waters Driver Pack 2017 R2 ensure that Microsoft Windows Universal C Runtime (KB2999226) is installed. This is to avoid failure of Waters Driver Pack 2017 R2's DM.exe application, which depends on the Windows Universal C Runtime that this hotfix provides for older Windows platforms. |
| **CM6-21112** | Waters 2998 PDA: Localization to a non-English regional setting for the PC (e.g., German) does not function correctly for the timed events table, e.g., using a Waters 2998 PDA detector and setting a timed event in the program file (e.g., wavelength change at 5 minutes). The event is recorded, but without the event time. |
| **CM6-21180** | After removing the Sample Organizer from the Instrument Configuration, the plate setup is not updated correctly. Manually updating the plate settings in the plate setup configuration dialog avoids this issue. |
| **CM6-24158** | Waters 2489 PDA: After changing the Instrument Method from single to dual-wavelength mode (without changing Channel A wavelength), the data rate for Channel B is set incorrectly and incomplete data collection occurs. |
| **CM6-24191** | In extremely rare cases the Acquity PDA server stops working, which then causes the running sequence to be interrupted. |
| **44902** | Waters Acquity Instrument Method Editor: The Waters Acquity Instrument Method Editor only accepts a comma (,) or a dot (.) as a digit grouping symbol. If the digit grouping symbol in the Windows regional settings is set to any other value, creating an instrument method or opening an existing instrument method (with a pump configured) results in several "Out of Range" error messages and corruption of the instrument method. In particular Windows 10 offers an apostrophe as a digit grouping symbol in the regional settings, which is not accepted by the Waters Acquity Instrument Method Editor. |

## 5.3 Limitations with Agilent ICF

For a general overview regarding the Agilent Instrument Control Framework, please refer to the document Chromeleon and Agilent ICF - Quick Start Guide - Chromeleon 7.2 .pdf, found in the \Documents\ folder of the Chromeleon 7.2 CDS DVD. For Agilent drivers, please refer to Agilent documentation.

| ID | Description |
|---|---|
| **CM7-19347** | Agilent G1312B DAD: When using this device in combination with an old JetDirect card, problems may occur collecting data at 80Hz. Users affected by this issue should contact their local Thermo Fisher Scientific representative for advice on possible solutions. |
| **CM7-20047** | Agilent VWD G1314B: When using a G1314B VWD, occasionally the chromatogram is half the expected length. |

| ID | Description |
|---|---|
| **CM7-20991** | Agilent ICF: Occasionally when performing injections with ICF controlled instruments the injection volume is incorrectly displayed, although the injection itself was performed correctly. |
| **CM7-21172** | Agilent ICF: If the user has the monitor DPI settings on their PC set at greater than 100%, then some parts of the Agilent LC system device ePanel are not visible. |
| **CM7-21427** | Agilent ICF with 1100 or 1200 LC DAD: When acquiring data from an Agilent 1100 or 1200 LC DAD, the signal trace may be shifted to the start of the run, and the end time is inconsistent. No data points are lost with a data rate of<br>10 Hz and slower (>= 0.025 min 0.5 sec)<br>20 Hz and a low number of spectra (all other than ALL Spectra)<br>20 Hz and spectrum range 190- 400 step 2 |
| **CM7-22051** | Agilent ICF: Aborting an injection after the start of a sequence but before the injection resulted in an error, requiring the instrument controller to be restarted |
| **CM7-22567** | Agilent ICF: When using a Diode Array Detector with the Agilent ICF, it is necessary to enable spectra collection initially (this also allows to specify the wavelength range to be used in this run). If no spectra are needed for a specific time window during the run, use the timetable to temporarily set the mode to "None". |
| **CM7-23096** | Agilent ICF: If a Fraction Collector with Thermostat is installed, the channel mapping is not correct. This can be resolved by removing the <Channel name="FC: Delay Sensor"> node from DefaultConfiguration.xml before adding the driver. After this, the user can configure the mapping for the two channels manually on the Signals (2D) tab of the configuration dialog. |
| **CM7-19540** | Agilent ICF: The Agilent GC System Configuration dialog includes entries to configure the 7697A Headspace, G1888A Headspace, 7890 GC, 6890 GC, 68550 GC, and 7820 GC. Currently, it is only possible to configure the 7697A Headspace sampler. Attempting to configure any of the other modules will result in a message indicating that the modules are not supported. |
| **CM7-25781** | Agilent 7697A: The "Sample Bar Code Reader with data tracking" option on the Agilent 7697A sampler is not currently supported in Chromeleon. |
| **CM7-19975, CM7-20451** | Agilent 7697A: The Soft Config option, available via the ICF for Agilent LCs, is not supported for the Agilent 7697 HS. It should not be added to any custom ePanel as its use can cause issues by allowing configuration changes to be applied to the sampler during acquisition. |
| **CM7-19993** | Agilent 7697A: If the 7697A loses its connection to the network, an audit trail message is added indicating this fact. However, the ePanel will still show the unit as 'Ready'. |
| **CM7-23242** | Agilent 7697A: Running multiple 7697A Headspace autosamplers on a single 247 Instrument Controller can cause Windows "Out of Memory" errors, requiring a reboot of the 247 to resolve. Thermo Fisher therefore recommends that only one 7697A is connected to any 247 Instrument Controller. |
| **CM6-23980** | Agilent 7697A: When starting a sequence while the 7697A Headspace Sampler is in an 'Error', 'Running', or 'Not Connected' state, the ready check does not give an error message. After the sequence starts, the following happens:<br>If the sampler is in error state, the sequence starts without getting interrupted<br>If the sampler is running, the sequence stops with audit trail message "Sequence stopped by user"<br>If the sampler is not connected, the sequence interrupts with audit trail messages "Lost connection to Agilent 7697A Headspace Sampler", and "The instrument is offline. Check power to all modules, cabling between modules and whether the configuration matches the list of modules." |

| ID | Description |
|---|---|
| **CM6-23992** | Agilent 7697A: The 7697 Headspace Sampler has two versions; 111- and 12-vial capacity configurations. The Chromeleon driver is written and tested with the 111-vial capacity version. Though not tested, the driver is expected to work with the 12-vial capacity module. The user should not use vial positions greater than 12 in this case. The rack view always shows 111 vial positions. |
| **CM7-20259** | Agilent 7697A: Although the vial position may be assigned in the instrument method script, unless this is done in the Instrument Setup Stage, the sequence table will not be updated. This can result in misleading information in reports and should be avoided. |
| **CM6-23996, CM7-19940, CM7-21324** | Agilent 7697A: The 7697 Headspace Autosampler has two options for handling missing vials: Pause and Abort. An issue has been observed when the Abort option has been selected. In either mode, the autosampler overlaps sample preparation, i.e.: sample 2 is prepared while sample 1 is acquiring. If the autosampler finds that the sample 1 vial is missing, it will Abort or Pause the sequence at the point it discovers the vial is missing. However, if the autosampler finds that the sample 2 vial is missing, while sample 1 is already acquiring, and the Abort option has been selected, the entire sequence will be aborted, including the acquiring sample 1. |
| **CM6-24004** | Agilent 7697A: Using the instrument front panel, the allowed range for Transfer Line Diameter is 200-600 microns. However, when setting this value in the Chromeleon instrument configuration the limit is 250-530 microns. |
| **CM6-24005** | Agilent 7697A: When 7697A headspace instrument method parameters are included in a report, the “fill pressure” parameter is rounded to the nearest integer. |
| **CM6-24007** | Agilent 7697A: Some parameters logged to the instrument audit trail are rounded to nearest integer. However, all values are downloaded to the instrument with the proper precision. |
| **CM6-24008** | Agilent 7697A: When editing an existing 7697A Headspace instrument method, if the values for Purge Flow, Purge Time or Leak Flow are changed, the Save button is not enabled until the user changes tabs. |
| **CM6-24009** | Agilent 7697A: When configuring an Agilent 7697A, there is an option in the user interface to “Upload Config from Instrument”. This option does not work. Instead, you will need to manually configure the instrument settings. |

## 5.4 Limitations with Other Third-Party Instruments

| ID | Description |
|---|---|
| **CM7-20464** | Varian 3800 GC: It is not possible to start a manual data acquisition if the GC is not ready (i.e. all temperatures, pressures and so on are at their set points). Trying to do so will generate a Ready Check message detailing what is not ready. |
| **CM7-15293, CM7-18463** | Agilent 1100 Obsolete Driver: Occasionally, when using a combination of older and newer modules, the raw data was not correctly acquired. |
| **CM7-25343** | Agilent 6850: Instrument Configuration Manager does not report mismatches between the hardware and the Chromeleon configuration. |

| ID | Description |
|---|---|
| **CM7-12366** | Agilent 5890 DICE Card: Please note the following when using the19257 DICE card with the Agilent 5890 GC:<br>Control and acquisition using the DICE card is only supported via the serial interface. The GPIB interface is not supported.<br>Digital data acquisition via the serial interface of the DICE card is only supported for a single channel; dual channel digital acquisition is not supported.<br>Currently, it is possible to select certain illegal combinations in the Configuration Dialog such as:<br>Digital acquisition with the 19254 card. This is not supported.<br>Digital acquisition on one detector and analog acquisition on the other. Acquisition needs to be exclusively digital or exclusively analog.<br>When using the DICE card to acquire data digitally, the 5890 INET mode must be set to "GLOBAL" not "LOCAL". Failure to do so will result in a "No response from GC" message following the AcqOn command in the audit trail.<br>Note that when performing analog acquisition, the 5890 INET mode should still be set to "LOCAL" (as described in the online help). |
| **50891** | Agilent 7890 GC: When a column is linked to channel 1 of a PCM auxiliary, pressure setpoints are not received by the hardware. This applies to setpoints downloaded when running a sequence, as well as those entered interactively in the software. Changing the pressure on the PCM auxiliary Channel 1 works fine if no column is linked. Changing the pressure for channel 2 of the PCM auxiliary (e.g. "AuxPCM_A") also works fine. |
| **CM7-9675** | Agilent 7890 GC: There is a backward compatibility issue that affects the Agilent 7890 GC Sampler Positions. When using a 7890 GC in combination with a 7693 sampler, certain positions in the sampler could give a misspelled value to a move command. This has now been corrected and could in rare cases lead to Instrument Method files needing to be updated to avoid errors. |
| **CM7-24724** | Agilent 7890B GC: With certain firmware versions, the GC does not properly send abort information to the software, meaning that events such as FID flame out, pressure errors, hardware faults and so on, will not be recognized or reported by Chromeleon. The problem is seen in FW versions B.02.01, B.02.04.2 and B.02.05, but not versions A.01.xx.x. The 7890A GC does not seem to have this problem. |
| **CM7-15400, CM7-15556, CM7-15734, CM7-15736** | PerkinElmer LC200 Autosampler: When upgrading from earlier versions of Chromeleon 7 CDS to Chromeleon 7.2 CDS SR3, it is necessary to reload the PerkinElmer LC200 Autosampler driver and configure the loop size within the configuration. The user should then check all instrument methods using this autosampler to ensure that they continue to function correctly. |
| **CM7-15716** | PerkinElmer Clarus 400 GC: Some users must select Autosystem XL in configuration in order to communicate with the PerkinElmer Clarus™ 400. |
| **26162** | PerkinElmer Clarus GC / Autosystem XL: In some instances, communication errors are seen with a PerkinElmer Clarus GC / Autosystem XL system run without temperature ramps.<br>In the course of improving the PerkinElmer Clarus GC driver we have extensively tested the communication infrastructure and were not able to reproduce this issue neither with the PerkinElmer Clarus GC driver released with Chromeleon 7.2 SR3 MUa nor with the improved driver released with Chromeleon 7.2.10 and 7.2 SR5 MUh. We recommend upgrading to Chromeleon 7.2.10 or 7.2 SR5 MUh, which provides a PerkinElmer Clarus GC driver with improved communication infrastructure. If the problem is still observed after an upgrade to Chromeleon 7.2.10 or 7.2 SR5 MUh, we recommend checking the cabling, in particular the connection between the PerkinElmer Clarus GC and the sampler which triggers the GC start. |

| ID | Description |
|---|---|
| **CM7-17948** | Shimadzu LC: Unlike most drivers, some Shimadzu UV detectors require that you select the Advanced filter in the Command (F8) window in order to access the Lamp On/Off command. |
| **CM6-23947** | Shimadzu LC-10A, LC-2010: If the user cancels the key lock state of the front panel of the instrument and then, for example, stops a manual acquisition, this is likely to lead to unexpected effects during the next operation such as sudden abort of the sample run. |
| **CM7-24868** | Shimadzu LC-2010A: If using a large injection volume, samples could remain in a running state until interrupted manually by the user. The need to configure the loop volume in two places was not correctly documented in the help. |
| **CM7-23099** | Shimadzu LCs: The Microsoft Visual C++ 2005 Run Time component is no longer supported by Microsoft. However, this component is required for the Shimadzu LC-2010A and Shimadzu LC-10A/20A/30A drivers and is therefore installed by Chromeleon.<br>If you don't use these drivers, it is possible to uninstall the Visual C++ 2005 Run Time component from the 'Programs and Features' page of the Windows Control Panel. Alternatively, during the installation of Chromeleon, it is possible to suppress the installation of the Visual C++ 2005 Run Time component by using a response file and excluding the "__MicrosoftVisualC2005_SP1__" package. Please refer to the Installation Guide for details.<br>Several of the Shimadzu devices can be controlled by obtaining an updated driver directly from Shimadzu (see the "List of Supported Instruments" for details). |

## 5.5 Limitations with Setup

| ID | Description |
|---|---|
| **CM7-21780** | Setup: NIST MS Search and Demo Library No Longer Automatically Installed: Incompatibilities of the NIST 2008 MS Demo Library installer with Window 7 and 10 could cause the main Chromeleon installer to hang or crash. To address this, the NIST Demo library, and the associated AMDIS and MS Search software are no longer automatically installed when you install Chromeleon. If desired, this package may be installed manually using the setup program found in the /Tools/ folder of the Chromeleon DVD. Alternatively, one may install AMDIS and MS Search using the full (licensed) NIST library installer.<br>Note that MS library searching within the Chromatography Studio is not affected by this issue. |
| **CM7-23341** | Setup: When Agilent ICF is installed, un-install of either Chromeleon or Agilent ICF fails if the Instrument Controller is running:<br>Failed to execute package Agilent Instrument Control Framework A.02.04. Another application has exclusive access to the file 'C:\ProgramData\Agilent Technologies\Instrument Control Framework\RCDriver.log'. Please shut down all other applications, then click Retry.<br>To avoid this issue, stop the Instrument Controller before uninstalling |
| **CM7-24384** | Setup: When Chromeleon 7.2 SR5 is installed on a Windows 10 PC, upgrading that PC to Chromeleon 7.2.6 will appear to complete successfully, with no IQ errors or warnings. However, attempting to export a sequence to PDF will fail with an error stating "Printer not activated, error code – 30".<br>To resolve this problem, rerun the Chromeleon 7.2.6 setup, selecting 'Repair' on the opening screen of the setup program. |

## 5.6 Limitations with Servers and Services

| ID | Description |
|---|---|
| **CM7-25151** | Scheduler: Copy/Move Sequences: Scheduler jobs copying or moving sequences to a network data vault might run into a state where the jobs cannot be completed anymore. One has to restart the corresponding Chromeleon 7 Scheduler Service to get this kind of deadlock being resolved. |
| **CM7-15588** | Discovery: The Discovery service failed to start if the PC name included non-standard characters. Now, the Discovery service will not crash and will log the PC name to help troubleshoot why it is not listed in the Console or Administration Console. |
| **52441** | Chromeleon Updater Service: If a user is logged into the Chromeleon Client or IPC while the Chromeleon Updater Service is attempting to install a Chromeleon update during a Maintenance Window, some Post Installation tasks will fail and the Chromeleon Admin Console will show a status of 'Installation Failed' for any of the affected computers. We therefore recommend that nobody is logged into any Clients or IPCs if they are going to be updated during a Maintenance Window. |
| **CM7-25508** | Upload: In very rare cases, an upload may succeed, however the sequence remains locked (redirected to the XVault). |
| **CM7-22111** | Discovery: Mixed Installations with Chromeleon 7.2 SR5 Domain Controller: If you have an existing installation of Chromeleon < 7.2 SR1, the following limitations apply during an upgrade:<br>• Stations that have Chromeleon 7.2 or below installed will not see any data vaults or instruments that have been created with Chromeleon 7.2 SR5, until after those stations are upgraded to 7.2 SR5.<br>• It is not possible for a Chromeleon 7.2 (and below) station to join a Chromeleon 7.2 SR5 domain.<br>• Stations that have Chromeleon 7.2 or below will not receive any updates from the Discovery Service after the Chromeleon domain controller has been upgraded to 7.2 SR5 and will only see resources that were already in existence and cached.<br>Please refer to the Enterprise Documentation for guidance on upgrading an older installation of Chromeleon 7 to Chromeleon 7.2 SR5. |
| **CM7-23033** | Legacy Upload: With replication framework disabled, when trying to modify a sequence while the automatic upload is already in progress the upload may fail in very rare cases and it is not possible to remove the sequence from the instrument queue by retry of the upload. To recover the sequence a copy of the sequence has to be stored manually. Chromeleon 7.2 SR5 adds an audit trail entry to the manually uploaded sequence that refers to the original sequence so that traceability is ensured.<br>Thermo Fisher Scientific recommends enabling the replication framework with Chromeleon 7.2 SR5 to avoid the problem. |
| **CM7-25633** | Services: In very rare cases if the Oracle database disk is running out of disk space and in addition an IPC cannot be connected properly, it may happen that that a sequence cannot be uploaded automatically. When trying to reboot the IPC a retry of the upload may result in an error message "A transaction package is missing on the hard disk. The order of transaction packages which should be sent to the network data vault can't be accomplished." The sequence can't be removed from queue automatically. It needs to be removed manually. |

## 5.7 Other Limitations

| ID | Description |
|---|---|
| **CM7-24042** | Instrument Configuration Manager: The .NET 4.7 framework is installed by Windows Update. For Windows 7 it is a recommended update, but for Windows 10 it is a mandatory update. This release of Chromeleon has been validated against .NET 4.7. However, under rare circumstances, the installation of .NET 4.7 could lead to malfunctioning or crashes of the instrument configuration manager or configuration plug-ins. If this occurs, please contact your Chromeleon support desk for assistance in correcting the problem. |
| **CM7-20449** | User Management: Login "Role" dropdown box becomes empty after upgrading to Chromeleon 7.2 SR4. This is due to the fix for CM7-18178 "Roles were offered in the Logon dialogue, even if they were not specified as Logon roles". To work around this issue, enable the "Logon Role" property in the user database for all logon roles that users need to be able to select. |
| **48574** | User Management: Privileged Actions: The privileged action 'Edit Injection Specific XIC Detection Settings' which has been introduced in Chromeleon 7.2.10 is not evaluated at all. Instead the privileged action 'Modify Peak' is applied. So if the latter privileged action is enabled for Requires Authentication and/or Requires Comment any change (enabled, disable, edit) of 'Injection Specific Detection Settings' (see 3.7.7 for details) will trigger a corresponding authentication and/or (default) comment request when these changes are going to be saved. |
| **CM7-22986** | Acquisition: During stress tests with multiple, very long sequences with more than 1000 injections, the queue was aborted with an unexpected error:<br>"Queue End 24.12.2016 16:27:22 +01:00 Stopped the sequence queue run. Sequence End 24.12.2016 16:27:22 +01:00 End of sequence "Simple Vanquish Test 2016-12-21 19_37".<br>Abort Error 24.12.2016 16:27:21 +01:00 The injection audit trail cannot be saved. Error detail: Die Transaktion wurde abgebrochen. The transaction commit operation failed. The save operation failed for data item(s) "'chrom://c-germoefelein/XVault/Vanquish-H/6/Simple Vanquish Test 2016-12-21 19_37.seq/277.smp/Audit.audit'". Execution of txp [05f69eb4-c9ed-11e6-9598-005056c00008] failed. Error message: The command 'UPDATE CJ_VERSION SET VERSION_LAST_SIBLINGS_TXN_NO = @P0 WHERE CJ_VERSION.VERSION_INVALIDATE_TXN_NO > @P1 AND CJ_VERSION.PARENT_ID IN (@P2)' failed."<br>As a workaround it is recommended that automatic upload be disabled when running very large sequences and uploading them manually instead. |
| **CM7-23051** | Acquisition: In a few cases Sequences have been reported to abort with messages in the audit trail that were not conclusive, such as:<br>• "The audit trail was unavailable for some time. Several audit trail messages are lost. They have been logged to the file "Dionex\Chromeleon\Log\AuditTrailMessages.log" in the (common) application data folder."<br>• "The injection audit trail / signal "…" cannot be saved. Error detail: The transaction has aborted. The transaction commit operation failed."<br>However, the SQL Server ERRORLOG files of the affected Instrument Controller PCs revealed errors due to slow file operations on the local hard drive. Thus, it is assumed that these failures were caused by poor disk drive performance. Chromeleon 7.2 SR5 introduced additional internal error reporting so that similar errors can be identified more easily in the future. |
| **CM7-11692** | Console: Instruments: When monitoring the baseline with an overlay chromatogram added to the signal plot, the overlay may disappear after changing to a different ePanel and back. |

| ID | Description |
|---|---|
| **CM7-17966** | Console: Instruments: Online Plot: For the Vanquish CAD, some properties and two channels are recorded where the data is transmitted as aA and scaled to pA with 6 digits resolution. The online plot displays these numbers for the current signal value with 2-digit precision only. |
| **47809** | Console: Data: It might happen that when a sequence is directly started from the Console, the sequence "running icon" (green arrow) is not shown in the tree view of the data vault (in the left pane). This is likely a status reporting issue with the Discovery service and does not interfere with actual acquisition. The proper status is still shown in the instrument queue and in the view of the sequence itself. |
| **CM7-25480** | Console: Data: If a Data Vault is unavailable, it is not shown as collapsed in the data explorer tree despite its sub-folders and items being inaccessible. |
| **CM7-22738** | Console: Data: Empty Inject Time and GUID fields have been seen in a few single injections. Raw data have been successfully acquired and stored on the local Instrument PC. The Injection Audit Trail on the Instrument PC contains complete information, including the missing details. Too few instances have been reported to identify the root cause of this problem.<br>Note: If you are affected by this problem, please contact your local Thermo Fisher representative for assistance with recovery of the missing injection details. |
| **CM7-21399** | Console: Data Query: Injection Variables 'Auto Dilution Ratio' and 'Retention Time Standard': Auto Dilution Ratio and Retention Time Standard columns are not available in the custom filter conditions for injection records (e.g., in the IRC editor or summary report). |
| **CM7-19836** | Console: eWorkflows: The eWorkflows wizard fails with a message "Failed to retrieve the required Data Vault" when there is more than one Data Vault with the same name in the Chromeleon Domain. |
| **CM7-24058** | Console: eWorkflows: The eWorkflow option "Preserve Layout", introduced in Chromeleon 7.2.6 is not backwards compatible with older versions of Chromeleon. If a client with an earlier version attempts to open an eWorkflow for which this option is enabled, the error message "Cannot load, as the data was created with a newer Chromeleon version." Is displayed. |
| **CM7-19336** | Import Chromeleon 6: Due to changes in Auditing between Chromeleon 6 and Chromeleon 7, when a Chromeleon 6 Sequence is imported into Chromeleon 7, some of the text displayed in the Instrument Audit trail will not appear exactly as it did in Chromeleon 6. Refer to the topic "Viewing Chromeleon 6 Data" in the online help for further information. |
| **SWFR-248** | Waters Empower Import: The following limitations apply to the import of data from Waters Empower:<br>1. Time zone information is not supplied by the Waters toolkit API, so dates and times will be imported as if they were local.<br>2. Empower allows injections that are not contained in sample sets. These are not visible to the importer and cannot be imported unless added to a sample set.<br>3. Some peak results fields show incorrect units in Chromeleon since there is currently no mechanism to change the units on 'core' fields. They are included correctly in custom fields that by default are hidden. |
| **CM7-25551** | Import/Export: If two (or more) users simultaneously attempt to export a Sequence to the same location, a "Cannot export <sequence_name>" error is displayed for all. |
| **CM7-18252** | Export MS Raw Data: When acquiring MS data, Chromeleon acquires MS data and all other signal data, such as UV, FLD, and pump pressure signals, in separate formats. As a result, when MS data is exported, non-MS data is not exported with the MS raw data file. |

| ID | Description |
|---|---|
| **36644** | Studio: Tentatively Identified Peaks Pane: In Chromeleon 7.2.10, the list of available library hits was increased from 3 to 12. If a hit >3 is selected and the data is opened in a version of Chromeleon prior to 7.2.10, then although the compound name will be available, the SI and RSI will not |
| **CM7-15455** | Studio: Processing Method: Without data in the first injection, it is not possible to select the 2nd or 3rd Detector for Dead/Delay Time. |
| **CM7-17465** | Studio: Processing Method: On the MS Settings page, it can happen the spectral bunching value for Peak Dependent Correction that is displayed as an annotation on the chromatogram plot does not match the value entered in the processing method on the MS setting page. This is by design, because the method setting defines the maximum number of spectra for averaging. The actual number of spectra used is determined the number of MS spectra which fit the filter used for the chromatogram. This is not correctly documented in the Chromeleon online help. |
| **CM7-21783** | Studio: Processing Method: Performance When Importing Fixed Calibration Standards for MS Sequences: When working with sequences of MS data, importing injections for use in a fixed calibration can take 1-2 minutes to complete, depending on the data. |
| **CM7-24825** | Studio: Processing Method: A sample with a processing method created in Chromeleon 7.2.7 when opened in the Chromeleon 7.2.6 in the Studio should show a notification bar indicating that the evaluation results may differ from those using the version which was used to create/save the processing method. This notification bar is not displayed. This issue affects only qualification sequences; regular sequences are not affected. |
| **CM7-25590** | Studio: Chromatogram Plot: When creating a Virtual Channel, the Power Factor only increments in steps of 0.5, which does not provide sufficient flexibility for controlling the scale of the extracted data. |
| **53530** | Studio: Mass Spectrum Pane: To improve performance when displaying mass spectra with very large profile scans (60,000+ data points) containing very narrow mass peaks, disable the Overview plot on the Interactive Settings tab of the MS pane properties. |
| **52803** | Studio: Protein Deconvolution: After creating a new processing method from the Navigation Pane of the Intact Protein Deconvolution category, the deconvolution processing method pane does not offer the ability to apply a template of processing parameters. The workaround is to press F5 (to refresh the view). |
| **48906** | Studio: Non-Targeted MS Processing: Due to limitations in the Sieve processing engine, it is only possible to perform NTMS processing on system with en_US localization (i.e. non-US localized systems are not supported) (This is also documented in the Sieve Release Notes) |
| **26033** | eSignatures: For sequences containing manually manipulated XICs saved in a software version older than 7.2.6, if the sequence was signed in a later software version without viewing the manually manipulated XICs, then verification could fail if the XICs were subsequently viewed before the verification.<br>To resolve this situation, remove the signature, view the manipulated XIC, and re-sign the sequence. Then view the manipulated XICs once more before verification. |
| **CM7-20335** | Comparison of Old Report Versions Shows Change in CmbxExportParameters: If a report which was created in Chromeleon 7.2 SR2 or earlier, and modified in SR3, has its history compared in SR4, the history will appear to show that the "Cmbx Export Parameters" value has changed from True to False. This is due to a change in the default value of this field and does not represent any user-modification of the report. |
| **CM7-17203** | Reporting: With some date/time formatting settings in the report, the order of month and day changes for some formats automatically. The settings in the Report Template can change based on the Windows regional settings. For example it is not possible to set m.d.yy as format with German regional settings. The Report Template replaces this with d.m.yyyy. The substitution occurs for report variables and non-report variable entries. |

| ID | Description |
|---|---|
| **CM7-22145** | Reporting: Discrepancy in “Last Modified” Time: Owing to differing rounding methods used, it is possible that the value of the "last modified" time for an object in a sequence has a difference of 1 second between the client display and the value shown in a report. For more details, please see the on-line help. |
| **CM7-17841** | Reporting: If using a non-Chinese format as the regional setting in Windows, and Chinese as the setting for Non-Unicode programs, then the header on a Chromeleon report is not correctly displayed for variables. If the format is changed to Chinese, then everything is correctly displayed. |
| **CM7-21331** | Reporting: The mass spectrum resolution report variable returns an internally used processing value instead of the resolution setting defined in the MS instrument method. It is recommended to discontinue use of this report variable until further notice. |
| **CM7-23442** | Reporting: In order to display the date and time in the Header/Footer of reports one can use the spreadsheet placeholders &D and &T respectively. During report creation these placeholders are replaced by the current date and time and formatted via the regional settings of the currently logged on Windows user account. However, this doesn’t work correctly for all regional settings, e.g., 24-hour time formatting.<br>Instead of using &D and &T one can use the Chromeleon report formula gen.currentTime or gen.reportTime together with the necessary format, e.g. {gen.currentTime; “dd.mm.yyy hh:mm”}.<br>Note: the formula gen.currentTime is replaced by the current date/time during the electronic report creation. If you want to display the date/time when the electronic report is really printed or exported you have to use the formula gen.reportTime. |
| **CM7-24972** | Reporting: When applying a two level Autorepeat rule with double grouping to a plot object, if the sequence contains a large number of injections and a large number of components, it is possible that software performance will degrade significantly. This has been observed when applying Autorepeat to an MS Components plot for a sequence with 27 injections and 292 components. |
| **CM7-23484** | Reporting: In order to display the last updated date and time for a locked injection it is necessary to use the Chromeleon report formula procMeth.version.time. |
| **SWFR-2543** | Sampling Devices That Do Not Use uL As Units for Volume: Although most liquid injection devices expect volumes to be entered in uL, there are a few devices (e.g. Thermo AS-HV and PerkinElmer GC Autosampler) which do not use µL as their default volume unit. If one of these devices is configured in the same instrument that also includes an injection device that uses µL, problems may be observed with volume validation in the sequence table as well as units associated with volumes in reports. |
| **CM7-24600** | Spectral Library: If an older Chromeleon version than Chromeleon 7.2.7 is used to create and name components from library screening results, then upon selecting the folder reference attempts to close the dialogue with OK will result in an exception being thrown. |
| **47486** | Data Audit Trail: After performing a manual manipulation of an MS component trace and saving the sequence, the first entry in the chromatogram data audit trail for that MS Component trace will show be ‘Changed’, not ‘Created’, The lack of a “Created’ line in the audit trail means that it is not possible to show the changes of the first chromatogram manipulation, nor to restore the previous chromatogram version.<br>As a workaround, use the injection data audit trail to show the changes of the first chromatogram manipulation and, if desired, to revert the first chromatogram manipulation. |

# 6 Backward/Forward Compatibility Issues

## 6.1 Thermo Scientific Vanquish Charged Aerosol Detector [CM6-23499]

Any Instrument Methods created for the Vanquish Charged Aerosol detector with Chromeleon 7.2 SR2 MUa and earlier may need to be updated due to changes in the driver introduced in Chromeleon 7.2 SR2 MUb.

## 6.2 Thermo Scientific Vanquish Autosampler [CM6-23405]

Any Instrument Methods created for the Vanquish Autosampler with Chromeleon 7.2 SR2 MUc and earlier will need to be updated if they contain the WashSpeed property. The WashSpeed value needs to be divided by 0.06 in order for the Instrument Method to work correctly.

## 6.3 Thermo Scientific TriPlus RSH

The current driver for this instrument is incompatible with firmware older than version 2.4.

## 6.4 Thermo Scientific TriPlus 300 HS

The current driver for this instrument is incompatible with firmware older than 2001.9.0.

## 6.5 Thermo Scientific TriPlus LS-100

The current driver for this instrument is incompatible with firmware older than version 2.4.

## 6.6 Thermo Scientific TSQ Quantiva

The driver version 1.1 QF1 for this instrument, included in this Service Release, may not be compatible with existing TSQ Quantiva mass spectrometers running driver version 1.0 without a hardware update. Please contact your local MS service engineer before attempting to upgrade the unit.

**Note**: New TSQ Quantiva modules from the factory are not affected by this issue.

## 6.7 Thermo Scientific TSQ Quantiva and Endura

The driver version 1.1 SP1 for these instruments may not be compatible with existing TSQ Quantiva and Endura mass spectrometers running driver version 1.0 without a hardware update. Please contact your local MS field service engineer before attempting to upgrade the unit.

**Note**: New TSQ Quantiva and Endura modules from the factory are not affected by this issue.

## 6.8 TSQ Quantiva and Endura Instrument Method [CM7-18759]

Instrument methods created with older versions of the TSQ Quantiva and Endura instrument method editor cannot be opened with newer versions of the method editor. If a large number of instrument

methods have already been created for regular use, upgrade of the TSQ Quantiva and Endura driver is not recommended. Contact your local Thermo Fisher Scientific representative for additional details.

## 6.9 Obsolete Drivers

Chromeleon includes several obsolete drivers in order to provide backward compatibility of existing installations:

- Agilent/HP 1200 HPLC System
- AI 1310/3000 GC Sampler - 10ul
- AI 1310/3000 GC Sampler - 5ul
- AI 1310/3000 GC Sampler - 5ul - 155 Vials
- AI 1310/3000 GC Sampler - 5ul - 105 Vials
- AI 1310/3000 GC Sampler - 10ul - 155 Vials
- AI 1310/3000 GC Sampler - 10ul - 105 Vials
- PAL Sampler for GC
- PAL Sampler for LC
- TRACE 1300 Series GC (First generation driver that has been superseded by TRACE 1300 Series GC II driver)

Please note that issues reported for any of these drivers will no longer be addressed. If you are using one of these drivers Thermo Fisher Scientific recommends migrating to a supported driver as soon as possible.

## 6.10 Signed Sequences [CM7-16374]

Sequences that have been signed within Chromeleon 7.2 SR1 will fail verification after copying within later versions of Chromeleon 7.2 CDS.

## 6.11 Functional Differences between Chromeleon 7.2 and Chromeleon 6.8

Chromeleon 7.2.10 implements the vast majority of Chromeleon 6.8 features, and in general, has a richer feature set than Chromeleon 6.8. However, a few Chromeleon 6.8 features remain to be implemented on the Chromeleon 7 platform and a few will never be implemented, since they are now obsolete or no longer relevant. If a missing feature is important to you, please contact your local Thermo Fisher Scientific representative to find out if that feature is in the product development plans.

## 6.12 Chromeleon Enterprise Compatibility of a Chromeleon 7.2 SR5 Domain Controller with Newer Versions of Chromeleon Clients and Instrument Controllers

In general, it is possible for a Chromeleon Enterprise with a domain controller running Chromeleon 7.2 SR5 (including any MUs) to work with instrument controllers and client PCs running newer versions of Chromeleon (7.2.6 and later).

For customers with a fully validated Chromeleon 7.2 SR5 system, we would not recommend connecting clients or IPCs with a later version of Chromeleon installed.

However, should you choose to create a 'mixed' Chromeleon environment, the following restrictions apply:

Opening Processing Methods Created on Newer Versions on an Older Client

These processing methods may be opened, edited and saved without losing any parameters specific to the newer version. However, the new parameters will not be applied to data processing, will not be accessible as report variables and will be completely 'invisible' on the older client. The new parameters include:

- Peak Identification by Reference Mass Spectrum
- Time based specification of the Cobra Wizard the integration parameters 'Smoothing Width', 'Baseline Noise Range' and 'Consider Void Volume'
- UV Spectrum Search Across Multiple Libraries
- Variable Amount ISTD quantitation Based on Ratio (Response) vs Ratio (Amount)

Enterprise Functionality Specific to Newer Chromeleon Versions

Features such as email notification, automated results export, post-sequence reporting with Chromeleon Client closed, and Chromeleon XPS will not function, even if accessed from a client running a newer version of Chromeleon.

Support for Instrument Control Specific to Newer Chromeleon Versions

In general, it is possible to control these instruments. However, the following restrictions apply:

- The instrument controller PC must be running the newer version of Chromeleon
- Older client PCs will not be able to create, edit or view instrument methods for the new driver
- Older client PCs will not be able to view ePanels related to the new driver
- Some instrument view toolbar items such as 'Consumables' and 'Troubleshooting' may be disabled (or have fewer sub-options) on the older client.
- Older client PCs will not be able to perform manual tuning or do real-time scanning for remote mass spectrometers

Additional restrictions may also apply. If you have any questions or concerns, please contact your local Chromeleon support channel.

# 7 Appendix

This chapter contains general Information about Service Releases, Release Notes, Online Help, and Contributed Content.

## 7.1 Release Notes

The Release Notes list the new features and improvements of the current release. Included in these Release Notes are all of the functionality and bug fixes from Chromeleon 7.2 SR5 MUa through MUh. For details about Chromeleon 7.2 SR4 and other previous releases, refer to the relevant release notes which can be found on the Chromeleon 7.2.10 DVD.

## 7.2 Online Help

In general, new features, updates and drivers that are introduced with this release are described in an updated Online Help that is distributed with the release.

## 7.3 Contributed Content

The Chromeleon 7 disk contains a folder titled Contributed Content. This folder contains:

- Demonstration Material
- Localized Documents
- Localized ePanels
- Localized Report Templates
- eWorkflow Templates
- User Management Example
- Sample View Settings optimized for Bioanalysis and general MS data review
- Charlie Mouse Pointer

**Note**: The files in the Contributed Content folder have not been tested and validated according to Thermo Fisher Scientific Software Development Cycle guidelines modeled after ISO 9001:2008 standards. Thermo Fisher Scientific assumes no responsibility for any errors that may appear in the content provided in the Contributed Content folder.

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